

SOURCE CONTROL
EVALUATION/VOLUNTARY
CLEANUP PROGRAM REPORT
FOR THE FORMER CROWN
CORK AND SEAL FACILITY
10200 NORTH LOMBARD STREET
PORTLAND, OREGON

Prepared for Mecox Partners II, LLC URS Job No.: 60394964 ECSI Site: 5864 August 25, 2015



August 25, 2015

Mr. Scott Zecher Executive Vice President Mecox Partners II, LLC 417 5th Avenue New York, New York 10016

> SCE/VCP Report Former Crown Cork and Seal Facility 10200 North Lombard Street Portland, Oregon URS Job No. 60394964

Dear Mr. Zecher,

This Source Control Evaluation (SCE) and Voluntary Cleanup Program (VCP) Report has been prepared by URS for the former Crown Cork and Seal facility located in Portland, Oregon. This work was conducted in accordance with proposals to Mecox Partners II, LLC dated February 20, 2015, and July 31, 2015.

We trust this report meets your current requirements. URS appreciates the opportunity to assist you on this project. Please do not hesitate to contact us if you have any questions regarding this report or require additional assistance.

Sincerely,

URS Corporation, a Subsidiary of AECOM

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1.0 INTRODUCTION

URS Corporation (URS), a subsidiary of AECOM, was retained by Mecox Partners II, LLC (Mecox) to assess environmental conditions at the former Crown Cork and Seal (Crown) facility (the "site") located at 10200 North Lombard Street in Portland, Oregon (Figure 1) in response to findings documented in a Phase I Environmental Site Assessment (ESA) for the site (URS, 2012a). The site is developed with a former metal can manufacturing facility and paved parking areas. The western portion of the property is undeveloped. The subject property was used as a metal can manufacturing facility from 1950 until November 2011. The facility was decommissioned by Crown in 2012.

Three phases of investigations were completed at the site between 2012 and 2014 to characterize site conditions (URS, 2012b, 2013 and 2014a). The investigations assessed whether hazardous substances used at the site were present in soil, groundwater and/or indoor air at concentrations exceeding applicable risk-based concentrations (RBCs) established by the Oregon Department of Environmental Quality (DEQ). In December 2013, Mecox submitted an Intent to Participate form to DEQ's Voluntary Cleanup Program (VCP) and subsequently submitted the reports documenting the site conditions to DEQ. In response to comments received from DEQ during the initial phase of document review, URS conducted a stormwater pathway and dry well evaluation to provide information needed to complete a source control evaluation and obtain a source control decision from DEQ (URS, 2014b). This evaluation was submitted to DEQ in October 2014. In a letter dated December 29, 2014, DEQ provided comments based on their review of the site documentation submitted by Mecox and other readily available records. The letter included comments related to the site investigation and stormwater pathway and dry well evaluation (DEQ, 2014).

URS submitted a Site Investigation Work Plan to DEQ in February 2015 to address DEQ comments related to previous phases of site investigation. The Work Plan (URS, 2015) described the methods and procedures that were used to collect the soil, groundwater, sediment, indoor air, and sub-slab soil gas data that are reported in this document. In response to a request from DEQ, A Beneficial Water Use Determination (BWUD) and a Level I Ecological Risk Assessment (ERA) were also prepared as part of this site investigation and are included as appendices to this report (see Appendices A and B).

The purpose of this report is to summarize previous work conducted, present the results of the current investigation, and evaluate any risks associated with legacy contamination from former operations conducted by Crown. The goal of this phase of the project is to provide the DEQ with the information it needs to issue: 1) a Prospective Purchaser Agreement (PPA) to a prospective buyer of the site: and, 2) a Source Control Determination for the Portland Harbor.

2.0 SITE BACKGROUND

2.1 SITE LOCATION AND TOPOGRAPHY

The site is located in Section 2, Township 1 North, Range 1 West; Portland, Multnomah County, Oregon. Topographic coverage of the site vicinity is provided by the U.S. Geological Survey (USGS), Linnton, Oregon, 7.5-minute quadrangle (Figure 1). The elevation in the developed

eastern portion of the site is approximately 100 feet above mean sea level (msl). The undeveloped western portion of the site lies at an elevation of about 115 feet msl, and west of that the site elevations drops to about 80 feet msl at the western site boundary (USGS, 1990). The nearest surface water feature is the Willamette River located approximately 1,800 feet northwest of the site, at an elevation of about 15 feet msl. The site is located within the investigation area for the Portland Harbor Superfund Site.

The site is bounded to the north by rail lines, beyond which is a former Yokohama facility; to the east by North Lombard Street across which are an apartment building, single family residential properties and the Los Prados Event Hall; to the south by single family residential properties; and to the west by rail lines and North Terminal Road, across which is a Port of Portland auto storage lot. Land use in the site vicinity consists primarily of automotive storage facilities and single-family residential properties.

The manufacturing facility building is situated in the eastern portion of site. No other structures are present at the site, with the exception of a storage shed near the former propane AST area, a water tower, and a small cell phone tower control building adjacent to the water tower. The area developed with buildings totals approximately 240,000 square feet. Approximately half of the property not covered by buildings is paved or developed with a railroad spur, and the other half of the property in the far western portion is undeveloped and densely vegetated.

2.2 SITE HISTORY

The site was developed just prior to 1950, when the Continental Can Company factory and warehouse was constructed (URS, 2012a). No significant expansion of the facility building appears to have occurred since the initial development. Prior to 1950, the property was undeveloped and surrounded by residential construction to the south and east. The site was used as a metal can manufacturing facility from 1950 until November 2011. A facility plan showing the configuration and use areas within the building prior to facility decommissioning is included as Figure 2. In 2012, Crown had ceased operations at the facility and began decommissioning the manufacturing equipment at facility. Decommissioning was completed in 2013 and the facility has been vacant since that time.

2.3 HYDROGEOLOGIC SETTING

The site is underlain by fill, followed by native fine-grained flood deposits, characterized by sands and silts, separated by clayers. These are underlain by the Troutdale Formation, consisting of conglomerate with minor interbeds of sandstone, siltstone, and claystone. Below that is the Sandy River Mudstone. The flood deposits, Troutdale Formation, and Sandy River Mudstone comprise the sedimentary alluvium deposited within the Portland Basin, and are underlain by basement rocks consisting of Columbia River Basalts (Madin, Ma, and Niewendorp, 2008).

Investigations at the site confirmed that flood deposits beneath the site are primarily comprised of poorly graded, fine- to coarse-grained, sand and well graded gravels, with varying amounts of silt and clay from the surface to a depth of approximately 100 feet below ground surface (bgs). Fine-grained layers do not appear to be laterally continuous beneath the property. However, sandy deposits were consistently encountered below a depth of approximately 85 feet bgs (URS, 2013).

Five groundwater monitoring wells were installed at the site in 2013 (Figure 3). Groundwater beneath the site occurs at a depth of approximately 81 to 84 feet bgs in an unconfined aquifer (Table 1). The groundwater elevation beneath the site is approximately 10 feet above mean sea level (msl). A groundwater contour map was generated from water level measurements taken at site monitoring wells in April 2015 (Figure 3). These contours indicate groundwater flow is to the northwest parallel to and towards the Willamette River, with a hydraulic gradient of approximately 0.003 feet per foot. Based on previous water level measurements in January 2013, the hydraulic gradient appears to change seasonally, potentially in response to stage variations in the Willamette River.

URS prepared a BWUD to identify potential groundwater users on or near the site. The BWUD is included as Appendix A. Records in the Oregon Water Resources Department (OWRD) well log database indicate that a few potential water supply wells are located within a mile of the site, on the east side of the Willamette River. However, each of the properties where these wells are located has a connection to the City of Portland (COP) municipal water supply. Therefore, it is considered highly unlikely that these wells are used to supply drinking water.

3.0 PREVIOUS INVESTIGATIONS

URS conducted three phases of investigations at the site between 2012 and 2014 to characterize site conditions following completion of a Phase I ESA (URS 2012a), which identified the potential for soil and groundwater to be impacted by the facility. The scope of work, methods, procedures, and results of these investigations were presented in separate reports for each phase of work (URS 2012b, 2013 and 2014a).

The investigations included:

- Collecting soil sample from 22 soil borings and analyzing the samples for volatile organic compounds (VOCs), petroleum hydrocarbons, polyaromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs) and/or metals.
- Installing five groundwater monitoring wells. Soil samples from the well borings and groundwater samples from the wells were analyzed for VOCs, petroleum hydrocarbons and PAHs.
- Collecting two indoor air quality samples (samples CDM and CMR) in the coater drum room and coater mixing room and analyzing the samples for VOCs and total petroleum hydrocarbons (TPH) as gasoline.

The soil analytical results were compared to applicable DEQs RBCs (DEQ 2012a). The comparison to RBCs assumes the site use will continue to be commercial or industrial. Based on these assumptions, which are summarized in the conceptual site model (CSM) on Figure 4, URS considers the following soil exposure pathways to be potentially complete:

- Direct Contact –Construction and Excavation Worker
- Volatilization to Outdoor Air Occupational Worker
- Vapor Intrusion Occupational Worker

As described above in Section 2.3, the BWUD did not identify any drinking water wells on the east side of the river within a one mile radius of the site. Therefore, the groundwater ingestion and inhalation exposure pathway for tap water is incomplete, and the associated RBCs are not applicable. Since the depth to groundwater at the site is approximately 80 feet below the ground surface, the exposure pathways for direct contact by occupational and construction/excavation workers is also incomplete. Groundwater data were compared to RBCs for the following potential exposure scenarios included in the CSM (Figure 4):

- Volatilization to Outdoor Air Occupational Worker
- Vapor Intrusion Occupational Worker

The air sample results were compared to the DEQ RBC for the occupational worker exposure pathway for air (inhalation).

The analytical results of each phase of investigation are summarized below. Analytical results from these investigations are summarized in Tables 2 through 11. The summary focuses on the objectives of each phase of work and identifies analytical results that exceeded the applicable RBCs.

3.1 PHASE II SOIL INVESTIGATION – NOVEMBER 2012

The initial phase of investigation focused on evaluating soil conditions in the areas of concern identified during the Phase I ESA. Sixteen direct-push soil borings were sampled in this initial phase of work in the following areas of the site:

- The drum coater and drum mixing room areas inside the northwest part of the manufacturing building;
- The machine shop located in the southwest portion of the manufacturing building;
- The beader machinery and storage area located in the northwest portion of the manufacturing building;
- The quality assurance (QA) room and satellite hazardous waste storage rooms within the southern portion of the manufacturing building.
- The drainage outfall for stormwater runoff from the facility (drainage area);
- The former waste solvent UST location in the northern portion of the property;
- Former drum storage area west of the manufacturing building;
- Transformer storage areas and substation located north and south of the manufacturing building, respectively; and
- The location of a suspected dry well on the south side of the facility.

URS advanced sixteen direct-push borings (B-1 through B-16) in the areas of potential environmental concern and collected soil and groundwater samples for chemical analysis. Selected samples were analyzed for the following constituents:

• VOCs by Method 8260B;

- Gasoline- and/or diesel-range petroleum hydrocarbons by NWTPH-Gasoline extended (Gx) and Diesel extended (Dx), respectively;
- PAHs by Method 8270D Selected Ion Monitoring (SIM);
- RCRA Metals by Method 6020; and
- PCBs by Method 8082A.

Based on the findings of the Phase I ESA, VOCs and petroleum hydrocarbons were considered the primary concern at the site and 35 of the 36 samples were analyzed for these constituents. Eight samples were selected for PAH analysis based on detection of diesel- and/or oil-range hydrocarbons. Samples were selected for PCB and metals analyses based on the area of concern being investigated. For example, samples from the electrical substation and transformer storage area were analyzed for PCBs. Samples from seven areas with reported or suspected use of metals and areas where stormwater runoff could transport contaminants were tested for metals.

Constituents detected at concentrations exceeding applicable RBCs were limited to three VOCs (ethylbenzene, naphthalene, and 1,4-trimethylbenzene) and gasoline- and diesel-range petroleum hydrocarbons. The VOCs exceedances were limited to samples collected from depths of 2 to 17 feet bgs from boring B-1 located in the coater mixing room.

VOCs, including naphthalene and gasoline and diesel-range petroleum hydrocarbons, were the only constituent in soil that exceeded applicable RBCs; therefore, during subsequent phases of investigations, soil and groundwater analyses were limited to these constituents.

3.2 SOIL AND GROUNDWATER INVESTIGATION – FEBRUARY 2013

The primary objective of this phase of work was to assess groundwater quality in the vicinity of the drum coater room where impacts to soil were detected during the Phase II ESA (URS, 2012b). A secondary objective was to further assess the extent of soil impacts at the site through the analysis of soil samples collected from borings during the installation of the monitoring wells. To accomplish these objectives, URS implemented the following scope of work:

- Advanced five borings (monitoring wells MW-1 through MW-5) in the areas of potential environmental concern and in an inferred upgradient location to collect soil and groundwater samples for chemical analysis.
- Constructed monitoring wells in each boring.
- Collected a minimum of two soil samples from each monitoring well for analysis of:
 - ➤ VOCs by Method 8260B; and/or
 - ➤ Petroleum hydrocarbons by NWTPH-Gx and NWTPH-Dx.
- Collected groundwater samples from each monitoring well in November 2012 and January 2013 for analysis of:
 - ➤ VOCs by Method 8260B;
 - > PAHs by Method 8270D SIM; and/or

Petroleum hydrocarbons by NWTPH-Gx and NWTPH-Dx.

3.2.1 Soil Analytical Results

Fifteen soil samples (two or three samples from each well) were analyzed for VOCs. VOCs were not detected in any of the samples analyzed (Table 2). Reporting limits for analytes that were previously detected in soil during the Phase II Soil Investigation were below applicable RBCs.

Thirteen soil samples were analyzed for gasoline-, diesel-, and oil-range petroleum hydrocarbons (Table 3). Two or three samples were analyzed from monitoring wells MW-1 through MW-4. No samples were analyzed from MW-5 as this well was inferred to be in an area upgradient from potential source areas. Petroleum hydrocarbons were not detected in any of the samples analyzed and reporting limits were below applicable RBCs.

3.2.2 Groundwater Analytical Results

Groundwater samples analyzed for VOCs in November 2012 contained detectable concentrations of chloroform, 1,1,-dichloroethane (1,1-DCA), 1,1,1-dichloroethane (1,1-DCE), 1,1,1-trichloroethane (1,1,1-TCA), and trichloroethene (TCE) (Table 7). None of the detected concentrations exceeded the applicable RBCs.

Petroleum hydrocarbons were not detected above the reporting limits in the samples collected in November 2012 and reporting limits were below the applicable RBCs (Table 8).

Groundwater samples collected in January 2013 were also analyzed for VOCs, but the method was modified to include SIM analysis for chloroform, TCE and vinyl chloride. Chloroform concentrations decreased significantly in four of the five wells during the second sampling event. Concentrations of 1,1-DCA, 1,1-DCE, and 1,1-TCA were similar to the initial sampling event in November 2012 and TCE was detected in four of the five wells. All of the detected concentrations were below the applicable RBCs.

Groundwater samples collected in January 2013 were also analyzed for PAHs by EPA Method 8270 SIM (Table 9). Naphthalene was detected in the sample from well MW-1, but the concentration was less than the RBCs. Naphthalene was not detected in the remaining samples. Several other PAHs were also detected in the groundwater samples and the concentrations were either well below the RBCs or no RBCs have been established.

3.3 COATER MIXING ROOM INVESTIGATION – NOVEMBER 2013

The objectives of this investigation were to further characterize the extent of soil contamination in the vicinity of the Coater Mixing Room and to assess whether there is risk of exposure to VOCs through the vapor intrusion pathway. To accomplish these objectives, URS implemented the following scope of work:

- Advanced six borings (CMR-1 through CMR-6) in and immediately adjacent to the Coater Mixing Room to collect soil samples for chemical analysis.
- Collected a minimum of three soil samples from each boring for analysis of:

- ➤ VOCs by Method 8260B; and
- Petroleum hydrocarbons by NWTPH-Gx and NWTPH-Dx.
- Conducted indoor air sampling at three locations:
 - ➤ Inside the Coater Mixing Room;
 - ➤ Inside the Coater Drum Room; and
 - > One exterior location to assess ambient air.
- Analyzed the three air samples for the following constituents:
 - VOCs by Method TO-15 SIM; and
 - o Gasoline-range hydrocarbons by Method TO-3.

The air samples were collected during a period of decreasing barometric pressure. The barometric pressures at the beginning and ending of the sample collection were 30.27 and 30.15 inches of mercury, respectively. The weather was generally cloudy with light rain. Outdoor temperatures ranged from the 40s to low 50s degrees Fahrenheit (°F). The heat inside the building was set at 55 °F.

3.3.1 Soil Analytical Results

Twenty soil samples (three or four samples from each boring) were submitted to the laboratory for VOC analysis. VOCs were detected in 7 of the 20 samples analyzed at borings CMR-2, CMR-3, CMR-4, and CMR-5 (Table 2). Only the following two detections in samples from boring CMR-2 exceeded the applicable RBCs:

- Ethylbenzene 46.8 milligrams per kilogram (mg/kg) at 7 to 8 feet bgs exceeded the vapor intrusion occupational RBC.
- Naphthalene 45.8 mg/kg at 7 to 8 feet bgs exceeded the direct contact occupational RBC.

Twenty soil samples were analyzed for gasoline-, diesel-, and oil-range petroleum hydrocarbons. Gasoline-, diesel-, and oil-range petroleum hydrocarbons were detected in boring CMR-2 at 7 to 8 feet bgs. However, only the gasoline-range hydrocarbon detection in boring CMR-2 exceeded an applicable RBC (direct contact construction worker). Oil-range hydrocarbons were also detected in boring CMR-4 at 6 to 7 feet bgs, but at a concentration less than the RBC.

3.3.2 Air Analytical Results

The three air samples collected during this phase of investigation were analyzed for VOCs (Table 10). Several analytes were detected at low levels, but none of the detected concentrations exceeded the RBCs. In addition, the VOCs that were detected were also detected in the background sample at similar concentrations in most cases. This indicates that the detections from the Coater Mixing Room and Coater Drum Room are likely within the range of background air quality for the site area. The three air samples were also analyzed for gasoline-range hydrocarbons but gasoline-range hydrocarbons were not detected above the reporting limit (Table 11).

3.4 STORMWATER PATHWAY AND DRY WELL EVALUATION

In response to comments received from DEQ during the initial phase of document review under the VCP, URS conducted a stormwater pathway and dry well evaluation to provide information needed to complete a source control evaluation and source control decision for the site (URS, 2014b). As part of this evaluation, URS reviewed historic site plans, stormwater pollution control plans (SWPCPs), and COP records and compared these records with current site conditions. URS also reviewed Crown's Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 104(e) submittal for the site, and the National Pollution Discharge Elimination System (NPDES) stormwater monitoring records. In addition, URS conducted a video camera survey of a catch basin on September 18, 2014 to determine the status of a suspected drywell located in the northeast parking lot of the site. A follow-up site visit was conducted in January 2015 to confirm outfall locaitons and identify potential sampling locations. A summary of the information obtained for the stormwater system and dry wells at the site is presented below.

3.4.1 Stormwater

The stormwater infrastructure currently includes 10 catch basins running along storm drain lines on the north and south sides of the facility. Both storm drain lines discharge to the COP combined sewer located beneath North Lombard Street. This current configuration generally agrees with a 1957 Drainage System Plan, which corresponds to the initial development of the site, and SWPCPs for the facility from the early 1990s.

Four outfalls (Outfalls 1 through 4) were noted in the documentation reviewed by URS. These outfall locations are shown on Figure 5 and described below:

- Outfalls 1 and 2 are described in the 1999 SWPCP (Crown, 1999) as culverts that ran under the Union Pacific Rail Spur on the west side of the property and drained onto the adjacent Port of Portland property. Correspondence between Crown and the COP indicate that discharges from these outfalls ceased prior to February 23, 2005 (URS 2014b). Based on this correspondence, both outfalls are assumed to be former outfalls that no longer convey stormwater from the site.
- Outfalls 3 and 4 are connections to the COP municipal combined sewer system. The
 combined sewer in this area drains to Combined Sewer Overflow (CSO) diversion
 manhole. Flow at the CSO diversion is directed to the Columbia Boulevard Treatment
 Plant except during CSO events when stormwater in this line would discharge to the
 Columbia Slough (URS, 2014b).

The Crown facility had coverage under a 1200-L NPDES Permit from at least 1993 until 1997 when coverage was granted under a 1200-Z NPDES permit. Crown maintained coverage under the 1200-Z permit until 2005. Permit benchmarks were established in the 1200-Z permit for oil and grease, metals (copper, lead and zinc), suspended solids, and pH. These benchmarks were never exceeded .From 1999 to 2004, Crown exercised a monitoring waiver based on meeting permit benchmarks for a continuous 24-month period. No Exposure Certifications (NECs), indicating that no industrial activities or stored materials are exposed to rainfall or stormwater runoff, were issued for the site by DEQ in 2005 and 2010 (URS 2014b).

URS made several site visits during the summer of 2014 and winter of 2015 to compare historical records with current site conditions. Below is a synopsis of conclusions drawn from these visits regarding stormwater runoff and outfalls at the facility:

- Former Outfall 1 historically drained the mostly undeveloped northwestern portion of the site. The only development in this area is the rail spur that was used during a portion of Crown's historic operations. The rail spur is relatively flat and covered with ballast. URS was not able to confirm the presence of the Outfall 1 culvert daylighting on the hillslope at the west side of the property.
- The 1999 SWPCP identified an inlet to Outfall 1 (Figure 5). URS inspected this area and observed a feature referred to subsequently as the Rail Spur Sump. The sump was almost completely filled with debris. URS removed the debris and observed a small amount of sediment and standing water in the sump (about 6- to 8-inches of standing water). The bottom of the sump is approximately 4 feet bgs. Outlet pipes were not observed above the level of the standing water, and the presence of standing water indicates the sump may have no outlet.
- Historical site drawings show an "overflow catch basin" associated with former Outfall 2 (URS, 2014b). URS observed this overflow catch basin in a densely vegetated area just east of the rail spur (Figure 5). The inlet to the catch basin is approximately three feet above ground surface, and therefore it is not possible for stormwater to enter the catch basin without significant ponding of surface water in this area. URS was not able to confirm the presence of the Outfall 2 culvert daylighting on the hillslope at the west side of the property.
- URS was onsite during a rain event on September 24, 2014 to observe stormwater runoff patterns along the railroad spur. Precipitation appeared to infiltrate through the permeable ballast material on the rail spur and no runoff in this area was evident. Stormwater runoff from all paved areas of the site was observed to drain to the catch basins as indicated on Figure 5. The runoff then flows eastward in the storm drain lines until it connects with the COP combined sewer system at the locations of Outfalls 3 and 4.
- The facility's roof appears to be constructed of asphaltic materials. Roof drains are constructed along the north and south sides of the facility building and tie into the north and south storm drain lines that discharge at Outfalls 3 and 4.

3.4.2 Dry Wells

Documents referencing several drywells were identified during URS' review of site records. The following is a summary of suspected or known dry wells at the site:

• A 1950 COP plumbing inspection card indicates that five floor drains in the drum storage area discharged to a drywell. The drum storage area is identified as the Drum Room on Figure 2. The former drywell location (HDW-3) is depicted as Figure 5. An apparent former floor drain was observed in the Drum Room and it appears to have been sealed with grout. There is no evidence of the drywell at the location indicated on the COP plumbing inspection card. The dry well, if present, no longer receives effluent from floor drains.

- Roof drain drywells are also shown on a 1974 COP plumbing inspection card east of the building on the front lawn. An undated, but apparently recent facility drawing indicates that the roof drains in this area were tied into the 12-inch storm drain on the north side of the building. Slight topographical depressions were observed on the lawn in the areas where these two roof drain drywells (HDW-1 and HDW-2) are shown (Figure 5). URS dug down approximately 2 feet in these areas to look for a manhole lid or other evidence that would indicate that these drywells are still in-place, but nothing was found. These roof drain dry wells do not appear to be present on site.
- A drywell (DW-1) shown on a 1975 COP plumbing inspection card was located in the facility's northeast parking lot, near catch basin CB-10 (Figure 5). URS conducted a video camera survey at CB-10 and confirmed that this dry well (DW-1) is connected to catch basin CB-10, consistent with the configuration shown on the 1975 COP plumbing inspection card. The drywell is offset 12 feet to the northwest from CB-10 and is approximately 20 feet deep.
- A schematic of a roof drain drywell servicing the cell tower building was located in the COP files. This drywell is also shown on the undated, but apparently recent facility drawing reviewed by URS. URS confirmed the presence of one roof drain drywell (DW-2) associated with the cell tower building on the southern portion of the site (Figure 5).
- Finally, the Phase II Environmental Site Assessment (URS 2012b) refers to a suspected drywell on the south side of the facility near catch basin CB-3 and Phase II Soil Investigation boring B-7. URS opened the lid of the suspected drywell during the August 21, 2014 site visit and confirmed that the feature was in fact a storm sewer manhole.

The DEQ UIC database includes one entry for this facility. UIC number 14516 represents two dry wells which are both classified as 5D2 (stormwater only). COP Bureau of Environmental Services reported the existence of these dry wells to DEQ, but they have not been registered in the UIC database. The dry wells are depicted as DW-1 and DW-2 on Figure 5.

4.0 CURRENT INVESTIGATION

This section presents the analytical results for the soil, groundwater, sediment, soil gas, and indoor air sampling conducted in the spring of 2015. All sampling and analysis was performed in accordance with the Site Investigation Work Plan (URS, 2015). Additional work including composite sediment sample collection from the north and south stormwater drain lines and screening of data against screening criteria specific to the Portland Harbor Superfund Site, was requested by DEQ in an email dated June 9, 2015 (DEQ, 2015) is also described in this section.

Field sampling forms are included in Appendix C and laboratory analytical reports are included as Appendix D. The analytical data was reviewed by the URS chemist and the results of this review are attached in the Data Quality Review Report (Appendix E). Analytical results from 2015 investigations are summarized on Tables 12 through 15. In addition to data qualifiers added by the analytical laboratory, URS added additional qualifiers in some instances. These additional qualifiers are outlined in Table 1 of the Data Quality Review Report.

4.1 GROUNDWATER INVESTIGATION

The five on-site monitoring wells (MW-1 through MW-5) were sampled on April 16 and April 17, 2015. All groundwater sampling was conducted in accordance with Section 5.3 of the Site Investigation Work Plan (URS, 2015), and included low-flow sampling techniques. Groundwater sampling forms are included in Appendix C.

All groundwater samples were analyzed according to the following analytical methods in accordance with the Site Investigation Work Plan (URS, 2015):

- RCRA 7 Metals (EPA Method 6020)
- Mercury (CVAA) (EPA Method 7470A)
- VOCs (EPA Method 8260B)
- PAHs (EPA Method 8270D SIM)
- PCB Aroclors (EPA Method 8082)
- Petroleum Hydrocarbons (NWTPH Dx and Gx)
- Phthalates (EPA Method 8270D)

4.1.2 Groundwater Results

The groundwater analytical results from this investigation are summarized on Table 12. The groundwater analytical results were screened against the DEQ RBCs for Volatilization to Outdoor Air (Occupational Scenario) and Vapor Intrusion into Buildings (Occupational Scenario) in accordance with the Work Plan (URS, 2015). Three additional screening criteria were included at the request of DEQ: EPA Maximum Contaminant Levels (MCLs), the Portland Harbor (PH) specific fish consumption Screening Level Value (SLV) based on a 175 grams/day fish consumption rate, and draft Preliminary Remediation Goals (PRGs) associated with the Portland Harbor Superfund Site that were provided to URS by DEQ (DEQ, 2015). There were no exceedances of the screening levels identified in the Work Plan. There were several exceedances of the additional screening criteria that were not included in the Work Plan:

- The following chemicals exceeded the PH Superfund Site PRGs: arsenic, benzo(a)anthracene, chrysene, 1,1-dichloroethene (1,1-DCE), and tetrachloroethene (PCE).
- The following chemicals exceeded the PH specific fish consumption SLV: arsenic, benzo(a)anthracene, chrysene, PCE, and bis(2-ethylhexyl)phthalate (BEHP).
- The following chemical exceeded the EPA MCL: BEHP. However, it should be noted that BEHP result exceeding the MCL reported by the laboratory was biased high as explained in the case narrative (Appendix E).

4.2 DRY WELL INVESTIGATION

4.2.2 Historical Dry Well HDW-3

Dry well HDW-3 is depicted on a 1956 COP plumbing inspection card. A connection is shown between this dry well and five floor drains in the former drum storage room. The approximate location of this dry well is depicted as HDW-3 on Figure 5.

URS installed one soil boring (boring HDW-3A) in the area of HDW-3 (Figure 6) in accordance with the Work Plan. (URS, 2015) The drilling and sampling services were provided by Pacific Soil & Water, Inc. of Tigard, Oregon on April 3, 2015. The borings were advanced using a trackmounted hydraulic push rig. A continuous soil core was retrieved from each boring using a 4-footlong soil core sampling device to the total depth of the boring. The soil core was visually inspected for evidence of contamination and odors, and representative samples of the soil were screened using a photoionization detector (PID). A description of the soil (e.g., texture, color, plasticity, and moisture content) and any evidence of contamination were recorded on the boring logs provided in Appendix C.

Soil samples were transferred to appropriate laboratory-provided sample container. Each sample container was properly labeled with a unique sample identification number, placed in a cooler with ice, and submitted to the laboratory under chain-of-custody for analysis.

All down-hole soil sampling equipment was decontaminated prior to use at each boring using a steam cleaner followed by triple-rinsing with tap water. Investigation-derived waste was placed in a clearly labeled 55-gallon drum and left on site pending laboratory analytical results.

Prior to the boring installation, a utility locator cleared the area using a magnetometer. The locator identified several electrical lines in the area, but no anomalies that would indicate a dry well in the area were detected. During the installation of HDW-3A, a subsurface void was observed between three and nine feet below ground surface (bgs). Soils encountered at the bottom of the void exhibited a slight chemical odor and a PID reading of 580 parts per million (ppm). A soil sample was collected at a depth of 9 feet bgs. An additional sample was collected at sixteen feet bgs due to a slight odor and a PID reading of 416 ppm. The sample at 9 feet bgs was analyzed for VOCs, TPH-Dx, TPH-Gx, PAHs, phthalates, PCBs and metals in accordance with the Work Plan. The sample at 16 feet bgs was analyzed for VOCs, TPH-Dx and TPH-Gx because these constituents are considered to be the more mobile contaminants of concern of interest (COIs).

Given the observed odor and the elevated PID readings in the HDW-3A boring, an additional boring (HDW-3B) was installed approximately 10 feet to the west (Figure 6). A slight chemical odor was noted at 12 feet bgs but the PID reading at this interval was 0.0 ppm. Samples were collected from this boring at 12 and 18 feet bgs, and analyzed for VOCs, TPH-Dx, and TPH-Gx.

The analytical results from the two soil borings (Table 13) were screened against the DEQ RBCs for Direct Contact (Construction and Excavation Worker scenarios) and Volatilization to Outdoor Air (Occupational scenario), and Vapor Intrusion into Buildings (Occupational scenario) in accordance with the Work Plan. (URS, 2015).

All detected concentrations were below screening criteria with the exception of TPH-Gx in the HDW-3A sample at 9 feet bgs, which exceeded the Direct Contact RBC (Construction Worker scenario). The lead concentration was above background for the Portland Basin, but below applicable RBCs.

4.3 OUTFALL SEDIMENT INVESTIGATION

Historic facility drawings show the presence of two outfalls (Former Outfall 1 and Former Outfall 2) on the western portion of the site (see Section 3.4.1). The Rail Spur Sump, which contains a small amount of sediment, may be associated with Outfall 1. The Overflow Catch Basin appears to drain to Outfall 2. No sediment was observed in the Overflow Catch Basin when it was initially located (prior to the submission of the Site Investigation Work Plan). However, during a subsequent site visit, a lower chamber of the catch basin was identified and found to contain a small amount of sediment. The approximate locations of the Rail Spur Sump and Overflow Catch Basin are depicted on Figure 5.

In an email correspondence dated May 26, 2015, DEQ requested that two additional sediment samples be collected from the onsite stormwater system that discharges to the COP combined sewer on North Lombard Street. DEQ requested that sediment be collected from the manhole adjacent to CB-1 on the South Line, and the manhole between CB-8 and CB-9 on the North Line (see Figure 5). If there was not sufficient sediment to collect a sample from the manholes, DEQ suggested collecting composite samples from catch basins on both the North and South Lines.

The sediment analytical results are summarized on Table 14. The sediment analytical results were screened against DEQ's Catch Basin Data Screening Values and Knee Chart Values (DEQ, 2010), PRGs associated with the Portland Harbor Superfund Site (DEQ, 2015), and DEQ's Regional Default Background Concentrations for Metals in Soil (DEQ, 2013). The Knee Charts were developed by DEQ to distinguish "typical" industrial stormwater from stormwater containing potentially elevated contaminant concentrations. Therefore, if a detected concentration was lower than the Knee Chart Value, then the Knee Chart Value was selected as the screening criteria. The "knee" value was approximated from the charts and included as screening criteria on Table 14. In addition, site stormwater sediment concentrations were plotted on the Knee Charts and included in Appendix F. Similarly, if a detected concentration was lower than the Regional Default Background Concentration, then the Background Concentration was selected as the screening criteria.

4.3.1 Rail Spur Sump Sediment Sampling

A sediment sample was collected from the Rail Spur Sump on May 5, 2015 in accordance with COP Guidance for Sampling Catch Basin Solids (COP, 2003) using a decontaminated, stainless steel spoon attached to an extension pole. The sediment sample field data sheet is included in Appendix C. The sample was analyzed for RCRA 8 metals, VOCs, PAHs, PCB Aroclors, NWTPH-Dx, NWTPH-Gx, and phthalates.

All detected concentrations were below screening criteria in the Rail Spur Sump with the exception of indeno(1,2,3-cd)pyrene, which exceeded the DEQ Catch Basin Screening Value (Table 14).

4.3.2 Overflow Catch Basin Sediment Sampling

A sediment sample was collected from the Overflow Catch Basin on April 17, 2015 in accordance with COP Guidance for Sampling Catch Basin Solids (COP, 2003). The April 17 sample from the Overflow Catch Basin was not analyzed for PCB Aroclors, NWTPH-Gx and mercury due to an oversight. An additional sample was collected on June 10, 2015 and analyzed for those parameters. The sediment sample field data sheet is included in Appendix C. In sum, the Overflow Catch Basin samples were analyzed for RCRA 8 metals, VOCs, PAHs, PCB Aroclors, NWTPH-Dx, NWTPH-Gx, and Phthalates.

All detected concentrations were below screening criteria with the exception of indeno(1,2,3-cd)pyrene, which exceeded the DEQ Catch Basin Screening Value (Table 14).

4.3.3 Onsite Stormwater System Sampling

None of the catch basins on the South Line contained any sediment, nor did the manhole adjacent to CB-2. However, enough sediment volume had accumulated in the manhole adjacent to CB-1 and the manhole adjacent to CB-2 to collect a composite sample. The composite points from the South Line sediment sample are depicted on Figure 5.

No sediment was observed in the North Line manholes but enough volume had accumulated in the catch basins to collect a composite. A composite sample was collected from catch basins CB-6, CB-7, and CB-8. The composite points from the North Line sediment sample are depicted on Figure 5.

The above samples were collected on June 10, 2015 in accordance with COP Guidance for Sampling Catch Basin Solids (COP, 2003) using a decontaminated, stainless steel spoon attached to an extension pole. The samples from each discrete location on the North and South Lines were placed in a decontaminated, stainless steel bowl and thoroughly mixed. The sediment samples were transferred directly from the stainless steel bowl to the laboratory-provided sample containers.

The sediment analytical results from this investigation are summarized on Table 14. There were several exceedances of the screening criteria listed in Section 4.3:

- The following chemicals exceeded the DEQ Catch Basin Screening Value: arsenic, cadmium, lead, mercury, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, chrysene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, pyrene, PCB Aroclor 1254, total PCBs, and di-n-butyl phthalate.
- The following chemicals exceeded the Portland Harbor Superfund Site PRGs: lead, mercury, and total PCBs.
- The following chemicals exceeded the DEQ Regional Default Background Concentrations for Metals in Soil: arsenic, cadmium, lead, and mercury.
- The following chemicals exceeded the Knee Chart Value: arsenic, cadmium, lead, mercury, total PAHs, and total PCBS.

4.4 SUB-SLAB VAPOR AND INDOOR AIR QUALITY INVESTIGATION

4.4.1 Sub-Slab Vapor Sampling

Three sub-slab vapor probes (SSVP-1, SSVP-2 and SSVP-3) were installed in accordance with the Site Investigation Work Plan (URS, 2015). Holes were cut through the floor slab at the locations shown on Figure 7. Vapor probes were constructed of ½ to ½ -inch Teflon tubing and a dedicated vapor probe tip at the bottom of the tubing. The vapor probe tip was set into the material directly below the slab. The annulus around the probe tip was packed with coarse silica sand, and a hydrated bentonite seal was brought flush-to-grade with the concrete slab. The exposed tubing was fitted with a valve or slip cap to allow for sample collection.

The locations of the sub-slab vapor probes are depicted on Figure 7. Soil gas samples were collected from the probes on April 17 and May 5, 2015. Soil gas sampling forms for both events are included in Appendix C.

Vapor samples from the sub-slab vapor probes were collected into 6 liter Summa canisters equipped with laboratory supplied sampling manifolds with a vacuum gauge and flow restrictor set to a sampling flow rate of 167 milliliters per minute (ml/min). The initial vacuum of each Summa canister was recorded on the sampling form prior to sampling. A leak check of each system was also performed prior to sampling. Each manifold was leak checked, followed by a leak check of the sampling line which was accomplished by covering the system in plastic sheeting and applying helium into the enclosure. The system was then purged with a 100 ml syringe and the exhaust was analyzed with a helium detector. No leaks were detected in the sampling systems.

Each vapor sample was analyzed for VOCs by Method TO-15. The analytical results from the subslab vapor samples are summarized on Table 15.

The analytical results were screened against the DEQ Soil Gas RBCs for Vapor Intrusion into Buildings. Both samples from SSVP-2, located inside the Coater Mixing Room, exceeded the RBCs for 1,2,4-trimethylbenzene and ethylbenzene. There were no exceedances for VOCs in any of the samples collected from the other two vapor probes (SSVP-1 and SSVP-3).

4.4.2 Indoor Air Quality Investigation

Three 8-hour integrated indoor air quality samples (IAS-CDR, IAS-CMR, and IAS-Plate Storage) were collected at the locations depicted on Figure 7. The indoor air quality sampling was accomplished using 6-liter Summa canisters with 8-hour flow controllers.

The Coater Drum Room and Coater Mixing Room appear to be heated by an electric "baseboard style" heating system. Vents indicative of a central heating system were not observed in this area of the building. The heaters did not appear to be on during sample collection. All doors and windows in the area were closed during the 8-hour sampling period.

The canisters were deployed between 0830 and 0900 on May 5, 2015. URS coordinated this sampling to commence with the onset of a storm and associated low atmospheric pressure. Low atmospheric or barometric pressure conditions present a worst-case scenario for vapor intrusion

because contaminant concentrations in indoor air should be higher when barometric pressure is low (EPA, 2012).

Barometric pressure (30.07 "Hg) and the initial vacuum of all 3 canisters were noted prior to sampling. URS took additional vacuum readings after 30 minutes to verify sampling progress. After 8 hours, final vacuum readings were taken on each canister, and the valves were closed. The canisters were packaged and shipped to Eurofins Air Toxics, under chain-of-custody, the following day.

The indoor air quality samples were analyzed for VOCs by Method TO-15. The results were screened against the DEQ RBC for Inhalation for the Occupational scenario. All detected indoor air concentrations were below the applicable RBCs, as shown on Table 15.

5.0 SOURCES, NATURE AND EXTENT OF CONTAMINATION

5.1 LOCALITY OF FACILITY

The Locality of Facility (LOF) is defined in Oregon Cleanup Rules as "any point where a human or an ecological receptor contacts, or is reasonably likely to come into contact with, facility-related hazardous substances" (Oregon Administrative Rules [OAR] 340-122-115 [35]). Factors that should be considered in determining the LOF include the chemical and physical properties of COIs as well as the attributes of the environment in which the release occurred. Additional factors include the propensity for the COIs to move through the environment and accumulate through various food webs.

Based on the information provided as part of the site investigations and groundwater monitoring, a LOF was approximated for this site (Figure 8). The limits of the LOF encompass areas where site COIs have been detected in soil, groundwater and stormwater sediment samples.

5.2 SOURCE(S) OF CONTAMINATION

Crown's operations at the site ceased in 2011 and the facility was decommissioned in 2013. Therefore, there are no current operations or sources of contamination at the site. The Phase II ESA (2012b) investigated the following potential historical sources of contamination identified during the Phase I ESA (URS 2012a):

- Former waste solvent UST
- Coater Mixing Room and Coater Drum Room
- Machine shop
- Satellite hazardous waste storage room and QC room
- Transformer storage area
- Drainage area
- Former 55-gallon drum storage Area
- Beader machinery and storage area

• Transformer/substation area

Analytical data obtained during the Phase II ESA and subsequent investigations indicate that historical releases occurred at the Coater Mixing Room, and operations in the Drum Room may have discharged contamination to dry well HDW-3. PAHs and VOCs have been detected above applicable RBCs in soils in the area of the Coater Mixing Room, and gasoline range hydrocarbons have been detected above applicable RBCs in soils near former drywell HDW-3. With the exception of the Coater Mixing Room and Drum Room, the other potential historical sources of contamination listed above do not appear to have significantly impacted the site since concentrations of COIs in soil samples collected in other areas of the site were below applicable RBCs.

5.3 NATURE AND EXTENT OF CONTAMINATION

Discussion in this section is limited to the nature and extent of soil and groundwater contamination observed at the site. Discussion of the nature and extent of contamination in the stormwater pathway is included in Section 10.

5.3.1 **SOIL**

Coater Mixing Room

Samples from soil borings installed in the Coater Mixing Room exhibit VOC, PAH, and petroleum hydrocarbon contamination limited to a depth of approximately 17 feet bgs (Tables 2 through 4). Borings installed immediately adjacent to the Coater Mixing Room do not show any impacts indicating the impacted soil is limited to the area directly beneath the Coater Mixing Room. This source area appears to be adequately delineated.

Drum Room

Historic operations in the Drum Room appear to have included discharges to historic dry well HDW-3. Samples from soil borings installed in this area, show that petroleum hydrocarbon contamination from these discharges is limited to depths of less than 18 feet bgs, and does not appear to extend beyond the immediate vicinity of HDW-3 (Table 13).

Other Areas

As described in Section 5.2 above, the Phase II ESA included the collection and analysis of soil samples at other potential historical sources of contamination at the site. Concentrations of petroleum hydrocarbon, VOCs, PAHs, metals and PCBs in soil samples collected from these other areas were below applicable RBCs.

5.3.2 GROUNDWATER

Three rounds of groundwater samples have been collected from monitoring wells at the site since 2012. The monitoring well locations are depicted on Figure 3. The samples were analyzed for

petroleum hydrocarbons, VOCs, PAHs, metals, PCBs and/or phthalates during one or more sampling rounds.

VOCs were the only constituents consistently detected during the three rounds of sampling in all of the wells at the site. Chloroform, 1,1-DCE and 1,1,1-TCA were detected in all five monitoring wells during each sampling event. The concentrations of VOCs did not exceed RBCs, but 1,1-DCE concentrations in well MW-4 (up to 109 ug/l) exceeded the PH PRG (7 ug/l). Trend plots for detected VOCs are included in Appendix G. The trend plots indicate the concentrations of 1,1-DCE and 1,1,1-TCA were relatively stable between November 2012 and April 2015. Concentrations of chloroform decreased significantly in four of the five wells following the initial sampling and remained relatively stable in the subsequent sampling events. The stable to decreasing concentrations suggest that there are no ongoing sources of VOCs at the site.

Other constituents detected during one or more sampling events at concentrations exceeding SLVs are discussed below.

- Arsenic: Detected at monitoring wells MW-1 (1.9 ug/l), MW-2 (1.8 ug/l), MW-4 (3.5 ug/l), and MW-5 (2.3 ug/l). All of these concentrations are in exceedance of the PH fish consumption SLV (0.014 ug/l), and PRG (0.02 ug/l). However, these concentrations are within the range of expected background concentrations (0.55-4.2 ug/l) for arsenic in the Willamette Basin as determined in a 1997 USGS study (USGS, 1997). Based on the absence of significantly elevated arsenic concentrations in soil at the site, the arsenic detected in groundwater is considered to represent background conditions.
- **Benzo(a)anthracene:** Detected in monitoring well MW-1 (0.00930 ug/l) during the 2015 groundwater sampling event, and in MW-2 (0.0189 ug/l) during the 2013 event. Benzo(a)anthracene was not detected at MW-2 during the 2015 event. The detected concentrations are very low, but exceed of the PH fish consumption SLV (0.0018 ug/l) and the PH PRG (0.001 ug/l).
- Chrysene: Detected in monitoring well MW-1 (0.0160 ug/l) during the 2015 groundwater sampling event. This concentration is a slight exceedance of the PH fish consumption SLV (0.0018 ug/l), and PRG (0.001 ug/l).
- **Tetrachloroethene** (**PCE**): PCE was detected in monitoring wells MW-1 (0.21 ug/l) and MW-2 (0.54 ug/l) during the 2015 groundwater sampling event. The detected concentrations slightly exceed the PH PRG (0.2 ug/l) and/or the PH fish consumption SLV (0.33 ug/l).
- **Bis(2-ethylhexyl)phthalate (BEHP):** BEHP was detected in monitoring well MW-2 (6.4 ug/l) and MW-5 (1.6 ug/l) during the 2015 groundwater sampling event. The MW-2 concentration is slightly exceeds the EPA MCL (6.0 ug/l), and the PH fish consumption SLV (0.22 ug/l), while the MW-5 concentration is a marginal exceedance of the PH fish consumption SLV. However, it should be noted that BEHP result exceeding the MCL reported by the laboratory was biased high as explained in the case narrative (Appendix E).

The concentrations of organic constituents detected in groundwater were not consistently detected in more than two wells at concentrations exceeding screening levels and therefore, the extent of these compounds appears to be limited.

5.4 HOT SPOT DETERMINATION

Site analytical data for soil, soil gas, and indoor air were compared to the concentrations listed in DEQ's Hot Spot Concentration Tables (DEQ, 2012b). The Hot-Spot SLVs are included in Tables 2 through 6, 10, 11, and 15. All detected concentrations were below the corresponding Hot Spot SLV. Therefore, there are no hot spots in soil, soil gas, or indoor air at the facility.

There is no surface water on the Mecox site, so a determination of hot spots in this media is not applicable. Comparison values for groundwater are not included on DEQ's Hot Spot Concentrations Table (DEQ, 2012b). Instead, an assessment of groundwater hot spots requires an evaluation of significant adverse effects on the current and reasonably likely future beneficial uses of groundwater to which site COIs would be reasonably likely to migrate. A BWUD was conducted as part of this investigation. The BWUD concluded that that a few potential water supply wells are located within a mile of the site, on the east side of the Willamette River. However, each of the properties where these wells are located have a connection to the COP municipal water supply. Therefore, it is considered highly unlikely that these wells are used to supply drinking water. In addition, fate and transport modeling was conducted for groundwater COCs and the model predicted that these concentrations would attenuate to levels below applicable screening criteria prior to discharge to either the Willamette River.

6.0 CONTAMINANT FATE AND TRANSPORT

Chemical transport modeling was used to assess whether downgradient groundwater concentrations at potential surface water discharge points would be above applicable SLVs. The modeling was completed using the Microsoft Excel-based BIOCHLOR (EPA, 2002) and BIOSCREEN (EPA, 1997) two-dimensional advective transport programs. Both models simulate remediation through natural attenuation. The resulting output of concentration along a plume centerline distance is based on the Domenico analytical solute transport model, and has the ability to simulate advection, dispersion, adsorption, and aerobic decay, as well as anaerobic reactions that have been shown to be the dominant biodegradation processes. In order to provide a conservative estimate, no decay was used. The output assumes advection, dispersion, and both scenarios with and without adsorption (most conservative).

All site COIs in groundwater that were detected at concentrations in exceedance of applicable SLVs are considered contaminants of concern (COCs) and were modeled. The groundwater COCs are:

- Arsenic (total)
- Benzo(a)anthracene
- Chrysene
- Bis(2-ethylhexyl)phthalate (BEHP)

- 1,1–Dichloroethene (1,1-DCE)
- Tetrachloroethene (PCE)

BIOSCREEN was used for arsenic and the PAH's and BIOCHLOR was used for the chlorinated solvents, however, since biodegradation was not included, the analytical solution was the same for both programs. The model input sheets, results table, and output concentration vs. distance curves are included in Appendix H, along with a memo discussing specific inputs used and assumptions made. Lithologies observed during monitoring well construction, in conjunction with observed hydraulic gradients, and groundwater analytical data from April 2015 were used as inputs along with appropriate literature values for dispersion and adsorption terms.

The models were run with and without adsorption to estimate concentrations at a point 1,800 feet from the site which is the distance from MW-4 to the closest discharge point at the Willamette River. The model run without adsorption utilized the hydraulic gradient from the onsite monitoring well network, which is very flat (0.0003 feet per foot [ft/ft]), while the model run that assumed some adsorption utilized a hydraulic gradient calculated from MW-4 to the approximate elevation of the Willamette River (0.0024 ft/ft), which is significantly steeper and therefore more conservative. The adsorption value used in the model was conservative as well at 25% of the published organic carbon (Foc) values. The model is not direction specific; therefore the transport result will apply to any offsite flow direction.

The model output concentrations were compared to screening values based on EPA Maximum Contaminant Levels (MCL), Portland Harbor specific fish consumption rate, and the Portland Harbor Preliminary Remediation Goal (PRG) for Migration of Contaminated Groundwater.

The longest model-estimated transport distance reached before declining to below the screening criteria was 1,000 feet for arsenic, assuming the shallow gradient from the site wells and no adsorption. The results indicated no exceedances at the river, 1,800 feet from MW-4. The conservative model simulation which included the increased gradient to the river, increased hydraulic conductivity, and 25% of the published Foc value also resulted in no exceedances at the river. Therefore, transport of constituents detected in groundwater at the site does not appear to have a significant impact to the Willamette River or any other local water body downgradient of the facility.

Analytical groundwater data from a 1999 remedial investigation conducted on the Port of Portland Terminal 4 (T-4) site (Hart Crowser, 1999), located adjacent to the west of the Crown site, were reviewed to determine if there are any potential impacts from groundwater COCs from upgradient sources. The analytical data for T-4 upgradient monitoring wells (MW-4 through MW-7) were non-detect for all PAH constituents. None of the T-4 upgradient wells were analyzed for VOCs, but two of the downgradient monitoring wells (MW-13 and MW-18) were analyzed for VOCs. No COCs at the Crown site were detected. The absence of Crown COCs in groundwater samples from the T-4 site is an additional line of evidence that site COCs in groundwater are attenuating prior to discharge to the Willamette River. Pertinent tables and figures from the Hart Crowser Report are included as Appendix H.

7.0 EXPOSURE PATHWAY ASSESSMENT

This section considers the completeness of potential exposure pathways between human receptors and contamination at known or potential source areas at the site. The exposure pathways considered are groundwater, direct contact (soil, stormwater sediment, and groundwater), and air.

7.1 GROUNDWATER EXPOSURE PATHWAY ASSESSMENT

The site's hydrogeologic setting is discussed in Section 2.3. This setting frames the discussion of the groundwater pathway targets and receptors that follows in this section.

7.1.1 Use of groundwater

The site and surrounding area are served by municipal water from the COP. The primary source of the COP's potable water is surface water from the Bull Run watershed, located approximately 26 miles east of Portland. The Bull Run watershed collects rainfall over 102-square miles, mostly within Mt. Hood National Forest. The supplemental and emergency COP water source is groundwater from the Columbia South Shore Well Field (CSSWF), located several miles northeast of downtown Portland near Gresham, Oregon. A total of 25 wells in the CSSWF draw water from four aquifers over 11 square miles. The site is outside the protected areas for both water supplies.

URS completed a Beneficial Water Use Determination (BWUD) as part of this investigation that included a well search using the Oregon Water Resources Department's (WRD) Well Log Query system (WRD, 2015). The search was conducted to identify water supply wells within one mile of the site on the east side of the river. The BWUD is attached as Appendix A.

Based on the results of the BWUD, a few potential water supply wells are located within a mile of the site, on the east side of the Willamette River. However, each of the properties where these wells are located have a connection to the COP municipal water supply. Therefore, it is considered highly unlikely that these wells are used to supply drinking water. In addition, the site is not located in a wellhead protection area (COP, 2015). Therefore, this pathway is considered incomplete.

7.1.2 Groundwater discharge to surface water

Dissolved COCs potentially present in groundwater may be transported to and discharged to nearby surface water bodies. Onsite groundwater elevations indicate flow to the north/northwest towards the Willamette River. This pathway is complete but based on fate and transport modeling results presented in Section 6.1, concentrations observed in site monitoring wells will attenuate to below applicable screening criteria prior to discharge to the Willamette River.

7.1.3 Vapor intrusion into buildings

Volatile COCs in groundwater may volatilize and migrate through the vadose zone to indoor air where an onsite occupational worker could inhale them. This pathway is considered potentially

complete, but COCs detected in groundwater during this investigation do not exceed vapor intrusion RBCs.

7.1.4 Volatilization to outdoor air

Volatile COCs in groundwater may migrate through the vadose zone to outdoor air where an onsite occupational worker may inhale them. This pathway is potentially complete, but COCs detected in groundwater during this investigation do not exceed volatilization to outdoor air RBCs.

7.2 DIRECT CONTACT EXPOSURE PATHWAY ASSESSMENT

This section assesses potential exposure pathways resulting from direct contact with soil, groundwater, and sediment.

Access to the site is controlled so human receptors would be limited to on-site workers. The site is currently vacant, and as such, the only on site workers are security personnel who perform daily inspections, and other owner representatives that infrequently visit the site. Future use of the site is unknown, but it is expected to remain industrial/commercial in nature.

Construction activities requiring subsurface excavation, such as utility work or environmental sampling, could expose workers to contaminants in soil and groundwater. Although access to the site is limited, direct contact with site COCs is possible via the pathways described in the following subsections.

7.2.1 Contact with Contaminated Soil

On-site workers may directly contact COCs in soil during invasive subsurface activities, such as utility work. Environmental sampling may also result in direct contact with contaminated media. This exposure pathway is potentially complete, but exposure to soils can be mitigated through appropriate hazard communication and use of proper PPE.

7.2.2 Contact with Contaminated Stormwater Sediment

On-site workers may directly contact contaminated stormwater sediment during maintenance activities, environmental sampling, or cleaning of stormwater catch basins and drain lines. The site is currently vacant, and there are no current sources of stormwater contamination. This exposure pathway is potentially complete, but exposure to stormwater sediment can be mitigated through appropriate hazard communication and proper use of PPE.

7.2.3 Contact with Contaminated Groundwater

Depth to groundwater onsite is greater than 80 feet bgs. No utility or construction is expected to take place at that depth. Therefore, this pathway is considered incomplete.

7.3 AIR PATHWAY ASSESSMENT

Concentrations of ethylbenzene, naphthalene, and 1,2,4-trimethylbenzene have been detected in exceedance of the Vapor Intrusion into Buildings (Occupational Scenario) and Volatilization to Outdoor Air (Occupational Scenario) in soil borings installed below the Coater Mixing Room.

Ethylbenzene and 1,2,4-trimethylbenzene have also been detected in sub-slab vapor probe SSVP-2 in exceedance of the Vapor Intrusion into Buildings RBC for soil vapor. Sub-slab vapor probe SSVP-2 is located directly beneath the Coater Mixing Room. Concentrations in soils and soil vapor from all other areas were below the applicable vapor intrusion and volatilization to outdoor air RBCs.

Volatile COCs in site soils may volatilize and migrate from the vadose zone through floor penetrations or cracks inside the Coater Mixing Room or the Coater Drum Room and therefore, this pathway is potentially complete. However indoor air monitoring has not detected COCs at concentrations exceeding applicable RBCs.

8.0 LAND AND WATER USE DETERMINATIONS

8.1 CURRENT AND FUTURE LAND USE

The property is currently vacant. Since approximately 1948, land use on the property has been manufacturing/industrial. Currently, the warehouse area of the property is zoned General Industrial 2 (IG 2) (COP, 2015). A strip along the southern property boundary has a "b" buffer overlay zoning, designating a buffer zone for the adjoining residential area. The rail spur is zoned General Employment 2 (EG 2). General Employment zoning allows both industrial and commercial uses.

The future land use of this property is anticipated to remain industrial. Its zoning and its development with a warehouse and rail spur favor this future use.

8.2 BENEFICIAL USES OF WATER

There is no surface water within the site LOF and groundwater is not currently in developed use on the site. The site and surrounding area are currently provided with potable water by the COP municipal system. No future use of groundwater as a drinking water source is anticipated. Any future drinking water supply for the site is anticipated to be serviced by the COP municipal system.

A BWUD was conducted as part of current site investigation activities and is included as Appendix A. The BWUD conclude that it is highly unlikely that groundwater or surface water are used in the site vicinity as a source of drinking water.

9.0 RISK ASSESSMENT

9.1 BASELINE ECOLOGICAL RISK ASSESSMENT

In January 2015, URS performed a Level I Scoping site visit to document potential ecological receptors and pathways at the subject property. The undeveloped western section of the property includes wooded and scrub-shrub habitat. Vegetation is dominated by weedy species characteristic of disturbed urban areas, such as English Ivy and Himalayan Blackberry. A variety of wildlife, particularly birds, was observed to use the site. No adverse ecological effects from past industrial activity at the nearby developed portion of the property were observed on the undeveloped portion.

URS evaluated the property for the potential presence of sensitive environments and species of concern as described in Oregon Administrative Rule (OAR) 340-122-115. No sensitive environments or species of concern were identified on the property.

URS reviewed potential pathways to ecological receptors on the subject property. COIs have been identified within and beneath the former warehouse building, the immediately surrounding paved area, and within the drainage conveyance system. Groundwater at this site is located more than 80 feet below ground surface. No complete pathways between COIs and ecological receptors were identified for the subject property. Based on these findings, no additional ecological evaluation is recommended. A copy of the Level I ERA is attached as Appendix B.

10.0 SOURCE CONTROL EVALUATION

10.1 STORMWATER PATHWAY EVALUATION

Historical site records indicate that OF-1 and OF-2 no longer discharge off-site (URS, 2014b). Stormwater runoff in the rail spur area, near former OF-1 has not been observed and there is no outlet to the rail spur sump. The inlet to the overflow catch basin, located in the vicinity of former OF-2, is approximately three feet above ground surface, and therefore it is not possible for stormwater to enter the catch basin without significant ponding of surface water in this area. Only one COC (indeno(1,2,3-cd)pyrene) was detected in sediment samples in these areas and detected concentrations only slightly exceeded the applicable screening criteria.

Stormwater infrastructure in the developed area of the site discharges to the combined sewer on North Lombard Street where it is directed to the Columbia Boulevard Treatment Plant except during CSO events when stormwater in this line would discharge to the Columbia Slough. While elevated concentrations of COCs were detected in this system, the volume of sediment was small and discharge to the Columbia Slough would be infrequent.

URS is not aware of any current contaminant sources to stormwater at the site. The facility has been decommissioned since 2012. Crown was issued No Exposure Certifications (NECs) from DEQ in 2005 and 2010, indicating that no industrial activities or stored materials were exposed to rainfall or stormwater runoff at that time. The above lines of evidence indicate that stormwater pathways to the Willamette River and Columbia Slough are incomplete and/or insignificant.

URS did not locate any records indicating that site stormwater infrastructure was ever cleaned out. The sediment sampled in 2015 is likely residue associated with historic operations and not reflective of what is currently discharging to the stormwater system.

10.2 GROUNDWATER TO SURFACE WATER PATHWAY EVALUATION

URS performed groundwater fate and transport modeling coupled with a BWUD to determine whether the COC concentrations observed in site monitoring wells could adversely impact the nearest surface water bodies or any beneficial uses of groundwater.

BIOCHLOR and BIOSCREEN modeling was conducted for groundwater COCs and the model predicted that these concentrations would attenuate to levels below applicable screening criteria

prior to discharge to the Willamette River, with the exception of arsenic. A few potential water supply wells are located within a mile of the site, on the east side of the Willamette River. However, each of the properties where these wells are located has a connection to the COP municipal water supply. Therefore, it is considered highly unlikely that these wells are used to supply drinking water. In addition, the site is not located in a wellhead protection area (COP, 2015).

11.0 CONCLUSIONS AND RECOMMENDATIONS

11.1 CONCLUSIONS

11.1.1 Voluntary Cleanup Program Conclusions

In accordance with its participation in the Voluntary Cleanup Program, Mecox has undertaken to investigate environmental conditions at the site. The following is a summary of the conclusions resulting from the investigation:

- No ongoing sources of contamination have been identified.
- The nature and extent of contamination has been adequately investigated for the purpose of assessing potential risk to human and ecological receptors.
- Legacy contamination remains in soil and stormwater sediment at concentrations exceeding RBCs. Concentrations of COCs detected in groundwater do not exceed applicable RBCs.
 Future occupational workers inside the Coater Mixing Room are potentially at risk of exposure to COCs in soil vapors.
- Future construction/excavation workers are potentially at risk of exposure to COCs in subsurface soils below the Coater Mixing Room and in the area of former drywell HDW-3.
- Future maintenance workers are potentially at risk of exposure to COCs in stormwater sediment.
- No other potential ongoing risk of exposure to site COCs has been identified for human or ecological receptors.

11.1.2 Source Control Evaluation Conclusions

The Source Control Evaluation for the on-site stormwater conveyance systems was conducted in accordance with DEQ guidance and the Portland Harbor Joint Source Control Strategy. The following is a summary of the conclusions resulting from the evaluation:

- There are no current sources of stormwater contamination at the site and the site received NECs from DEQ in 2005 and 2010.
- Correspondence between Crown and the COP indicate that discharges from outfalls OF-1 and OF-2 ceased prior to February 23, 2005. The inspection of the OF-1 and OF-2

- conveyance infrastructure by confirms the pathway is incomplete except possibly under extremely wet conditions when extensive ponding of water could occur near OF-2.
- The stormwater pathway to the Columbia Slough is complete but insignificant. Stormwater discharge from outfalls OF-3 and OF-4 is conveyed to the Columbia Boulevard Treatment Plant except during CSO events when stormwater in this line could discharge to the Columbia Slough.
- Small quantities of legacy contaminated sediment remains in the stormwater drainage system. This contamination has the potential, although unlikely, to be mobilized during large stormwater runoff events and reach the Columbia River or Columbia Slough during CSO events.
- The groundwater to surface water pathway is complete, but BIOCHLOR and BIOSCREEN
 modeling together with the BWUD indicate that site COCs are not likely to reach the
 Willamette River at concentrations exceeding screening levels nor affect beneficial uses of
 water.

11.2 **RECOMMENDATIONS**

In order to address outstanding environmental issues at the site and receive a Source Control Decision from DEQ, URS recommends the following:

- The potential risk to future occupational workers from exposure to COCs in soil vapors in the former Coater Mixing Room should be addressed. URS recommends the development of a Remedial Action Plan to mitigate the potential of vapor intrusion in this area. The Remedial Action Plan would evaluate barriers to prevent migration of vapors and engineering controls such as sub-slab depressurization, and recommend a preferred remedial action.
- The potential risk to future construction and excavation workers from COCs in subsurface soil in the Coater Mixing Room and the vicinity of HDW-3 should be addressed. URS recommends a deed restriction in the form of an Easement and Equitable Servitude that requires notification to DEQ prior to excavation/construction work at the site and implementation of a Contaminated Media Management Plan to address soil management during potential future construction.
- Legacy contamination in stormwater sediment should be removed to prevent the potential for this sediment to be discharged off site. URS recommends that all site stormwater infrastructure be cleaned out by flushing or jetting the system. Water and sediment should be collected by a vactor truck and disposed of at a permitted disposal facility.
- The void encountered during the drilling of boring HDW-3A should be further assessed using a geophysical survey and/or a backhoe to determine whether the void is associated with former dry well HDW-3. If the presence of a dry well is confirmed, it should be decommissioned in accordance with applicable regulations.

12.0 LIMITATIONS

This report has been prepared for the exclusive use of Mecox Partners II, LLC. It is intended to provide an understanding of the potential for the property evaluated in this report to have been affected by the release or presence of petroleum products or hazardous materials or wastes. The conclusions in this report are based upon data and information reviewed as outlined herein and obtained by URS personnel and our subcontractors. The interpretations and conclusions contained in this report are based on the expertise and experience of URS in conducting similar assessments and current regulations. In evaluating the subject property, URS has also relied upon representations and information furnished by others with respect to existing operations and property conditions and the historic uses of the property to the extent that the information obtained has not been contradicted by data obtained from other sources. Accordingly, URS accepts no responsibility for any deficiency, misstatements or inaccuracy contained in this report as a result of misstatements, omissions, misrepresentations, or fraudulent information provided by other sources.

URS' objective is to perform our work with care, exercising the customary thoroughness and competence of earth science, environmental, and engineering consulting professionals, in accordance with the standard for professional services for a national consulting firm at the time these services are provided. It is important to recognize that even the most comprehensive scope of services may fail to detect environmental liability on a particular site. No expressed or implied representation or warranty is included or intended in our reports except that our work was performed, within the limits prescribed by our client, with the customary thoroughness and competence of our profession. No third party shall have the right to rely on our opinions rendered in connection with the services or in this document without our written consent.

13.0 REFERENCES

- City of Portland, 2015. PortlandMaps. City of Portland, Corporate GIS and Bureau of Technology. Accessed July 2015 at http://www.portlandmaps.com/
- Crown, 1999. Stormwater Pollution Control Plan, 10200 N. Lombard St., Portland, Oregon. February.
- Hart Crowser, 1999. Remedial Investigation Report Terminal 4, Slip 3 Upland, Port of Portland. March 2.
- Hazardous Management Specialists 1986. Letter to Mr. Eduardo G. Chiong, Hazardous and Solid Waste Division, Oregon Department of Environmental Quality. June 5.
- Madin, I.P, Ma, L., and Niewendorp, C.A, 2008. Preliminary Geologic Map of the Linnton 7.5' Quadrangle, Multnomah and Washington Counties, Oregon. Oregon Department of Geology and Mineral Industries Open-File Report O-08-06.
- DEQ, 2010. Guidance for Evaluating the Stormwater Pathway at Upland Sites, Appendix D: Stormwater Data Reporting and Screening Table.

- DEQ, 2012a. Risk Based Concentrations for Individual Chemicals. June 7.
- DEQ, 2012b. Hot Spot Concentrations. June 7.
- DEQ, 2013. Regional Default Background Concentrations for Metals in Soil. State of Oregon. March.
- DEQ, 2015. Email from Jim Orr (DEQ) to Jim Flynn (URS) regarding Screening Level PRGs from EPA. June 9.
- EPA, 1997. http://www2.epa.gov/water-research/bioscreen-natural-attenuation-decision-support-system.
- EPA, 2002. http://www2.epa.gov/water-research/biochlor-natural-attenuation-decision-support-system.
- URS Corporation, 2012a. Draft Phase I Environmental Site Assessment, Cannery Property, 10200 North Lombard Street, Portland, Oregon. April 27.
- URS Corporation, 2012b. Phase II Environmental Site Assessment, Former Crown Cork and Seal Facility, 10200 North Lombard Street, Portland, Oregon. November 6.
- URS Corporation, 2013. Groundwater Investigation Report, Former Crown Cork and Seal Facility, 10200 North Lombard Street, Portland, Oregon. February 13.
- URS Corporation, 2014a. Coater Mixing Room Investigation Report, Former Crown Cork and Seal Facility, 10200 North Lombard Street, Portland, Oregon. February 28, 2014.
- URS Corporation, 2014b. Stormwater Pathway and Dry Well Evaluation, Former Crown Cork and Seal Facility, 10200 North Lombard Street, Portland, Oregon. October 7.
- URS Corporation, 2015. Site Investigation Work Plan, Former Crown Cork and Seal Facility, 10200 North Lombard Street, Portland, Oregon. February 20.
- USFWS, 2015. National Wetlands Inventory. United States Fish and Wildlife Service. Accessed March 2012. http://www.fws.gov/wetlands/Data/Mapper.html.
- USGS, 1990. 7.5-Minute Series Topographical Map, 1:24,000 scale, Linnton, Oregon, 1990.
- USGS, 1997. Quality of Shallow Groundwater in Alluvial Aquifers of the Willamette Basin, Oregon, 1993-1995.
- USGS, 2005. Scientific Investigations Report 5168. Groundwater Hydrology of the Willamette Basin, Oregon. United States Geological Society.
- WRD, 2015. Well Log Query, Oregon Water Resources Department. Accessed April 2015 at: http://apps.wrd.state.or.us/apps/gw/well_log/Default.aspx

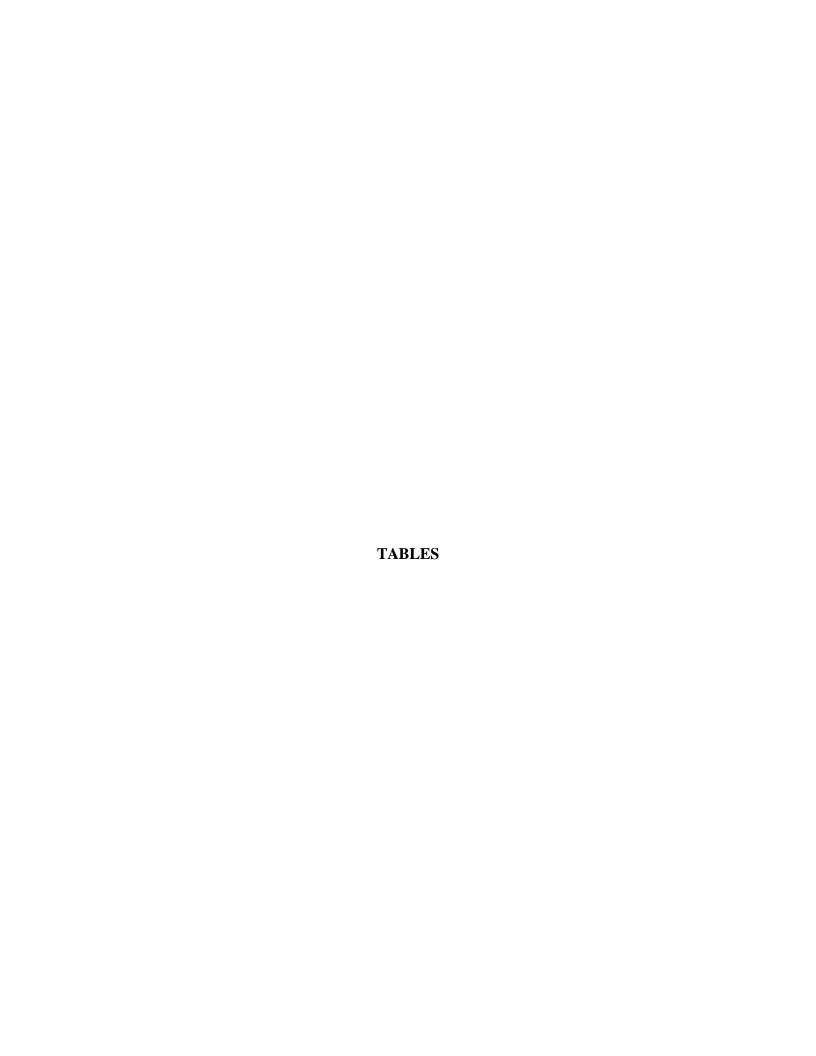


Table 1 Groundwater Monitoring Well Construction Details and Water Level Measurements Crown Cork and Seal Portland, Oregon

					Top of	Jan. 15, 2013	Jan. 15 2013	Jan. 16, 2013	Jan. 16	April 2015	April 2015
	Total	Screen			Casing	Depth to	Groundwater	Depth to	Groundwater	Depth to	Groundwater
	Depth	Interval			Elevation	Groundwater	Elevation	Groundwater	Elevation	Groundwater	Elevation
Monitor Well	(ft bgs)	(ft bgs)	Northing	Easting	(ft msl)	(ft btoc)	(ft msl)	(ft btoc)	(ft msl)	(ft btc)	(ft msl)
MW-1	95	85-95	713235.3	7622679.43	92.832	81.82	11.01	81.82	11.01	82.54	10.29
MW-2	100	90-100	713316.1	7622710.03	94.203	83.19	11.01	83.17	11.03	83.91	10.29
MW-3	98	88-98	713299.4	7622786.37	93.808	82.79	11.02	82.78	11.03	83.55	10.26
MW-4	95	85-95	712886.73	7622214.43	93.077	82.05	11.03	82.03	11.05	82.77	10.31
MW-5	98.5	88-98	712806.7	7622785.9	94.716	83.68	11.04	83.67	11.05	84.32	10.40

Notes:

ft = feet

bgs = below ground surface

btc = below top of casing

msl = mean sea level

All elevations based on City of Portland datum.

Sample ID	Samula Data	Sample Depth																	
Sample ID	Sample Date	(feet bgs)	n-Butylbenzene	sec-Butylbenzene	1,1-DCA	Ethylbenzene	Isopropylbenzene	4-Isopropyltoluene	Naphthalene	n-Propylbenzene	PCE	Toluene	1,1,1-TCA	TCE	MiBK	1,2,4-TMB	1,3,5-TMB	m,p-Xylene	o-Xylene
	Direct Contact Construction	n Worker (> 3 feet bgs)	NE	NE	290,000	160,000	240,000	NE	7,400	NE	16,000	240,000	NE	1,200	NE	20,000	31,000	190,000 ^d	190,000 ^d
Hot-Spot Concentrations ^a	Direct Contact Excavation	Worker	NE	NE	NE	NE	NE	NE	210,000	NE	440,000	NE	NE	34,000	NE	540,000	860,000	NE	NE
EPA RSL ^b			58,000	120,000	NE	NE	NE	NE	NE	22,000	NE	NE	NE	NE	56,000	NE	NE	2,400	2,400
	Volatilization to Outdoor	Air Occupational	NE	NE	NE	160	NE	NE	99	NE	NE	NE	NE	96	NE	1,000	NE	2,400 NE	NE
	Vapor Intrusion into Build	ings Occupational	NE	NE	NE	12	NE	NE	99	NE	NE	NE	NE	3	NE	1,000	NE	NE	NE
DEQ RBCs ^c	Direct Contact Construction	n Worker	NE	NE	62,000	1,600	24,000	NE	580	NE	9,100	24,000	430,000	420	NE	2,000	3,100	19000 ^d	19000 ^d
	Direct Contact Excavation	Worker	NE	NE	NE	44,000	670,000	NE	16,000	NE	250,000	680,000	NE	12,000	NE	54,000	86,000	540,000	540,000
B-1	8/30/2012	2 - 4	24.8	22.7	1.56	392	131	206	7.78	303	8.48	93.6	43.3	2.26	13,900	1,880	848	2,220	979
		6 - 8	19.9	11.5	1.07 U	118	78.9	6.57	53	222	3.8	17.5	4.55	1.07 U	1,990	1,710	380	457	277
		15 - 17	4.25	2.47	0.347 U	18.4	13.3	1.51	9.55	36.8	0.645	2.87	0.923	0.347 U	214	195	80.8	77.3	44.7
B-2	8/27/2012	1 - 3	0.0483 UJ	0.0483 UJ	0.0241 UJ	0.0241 UJ	0.0483 UJ	0.0483 UJ	0.0965 UJ	0.0241 UJ	0.0241 UJ	0.0483 UJ	0.0241 UJ	0.0241 UJ	0.483 UJ	0.0483 UJ	0.0483 UJ	0.0483 UJ	0.0241 UJ
		12 - 14	0.0727 U	0.0727 U	0.0364 U	0.0364 U	0.0727 U	0.0727 U	0.145 U	0.0364 U	0.0364 U	0.0727 U	0.0364 U	0.0364 U	0.727 U	0.0727 U	0.0727 U	0.0727 U	0.0364 U
B-3	8/30/2012	2 - 4	0.0627 U	0.0627 U	0.0314 U	0.0314 U	0.0627 U	0.0627 U	0.125 U	0.0314 U	0.0314 U	0.0627 U	0.0314 U	0.0314 U	0.627 U	0.0721	0.0627 U	0.0627 U	0.0314 U
		8 - 10	0.0448 U	0.0448 U	0.0224 U	0.0224 U	0.0448 U	0.0448 U	0.0897 U	0.0224 U	0.0224 U	0.0448 U	0.0224 U	0.0224 U	0.448 U	0.0448 U	0.0448 U	0.0448 U	0.0224 U
B-4	8/30/2012	2 - 4	0.0564 U	0.0564 U	0.0282 U	0.0282 U	0.0564 U	0.0564 U	0.113 U	0.0282 U	0.0282 U	0.0564 U	0.0282 U	0.0282 U	0.564 U	0.0564 U	0.0564 U	0.0564 U	0.0282 U
		10 - 12	0.0488 U	0.0488 U	0.0244 U	0.0244 U	0.0488 U	0.0488 U	0.0976 U	0.0244 U	0.0244 U	0.0488 U	0.0244 U	0.0244 U	0.488 U	0.0488 U	0.0488 U	0.0488 U	0.0244 U
B-5	8/28/2012	5 - 7	0.0513 U	0.0513 U	0.0257 U	0.0257 U	0.0513 U	0.0513 U	0.103 U	0.0257 U	0.0257 U	0.0513 U	0.0257 U	0.0257 U	0.513 U	0.0513 U	0.0513 U	0.0513 U	0.0257 U
		10 - 12	0.0459 U	0.0459 U	0.0229 U	0.0229 U	0.0459 U	0.0459 U	0.0918 U	0.0229 U	0.0229 U	0.0459 U	0.0229 U	0.0229 U		0.0459 U	0.0459 U	0.0459 U	0.0229 U
		15 - 17	0.0494 U	0.0494 U	0.0247 U	0.0247 U	0.0494 U	0.0494 U	0.0988 U	0.0247 U	0.0247 U	0.0494 U	0.0247 U	0.0247 U	+	0.0494 U	0.0494 U	0.0494 U	0.0247 U
B-6	8/29/2012	3 - 5	0.0549 U	0.0549 U	0.0275 U	0.0275 U	0.0549 U	0.0549 U	0.11 U	0.0275 U	0.0275 U	0.0549 U	0.0275 U	0.0275 U		0.0549 U	0.0549 U	0.0549 U	0.0275 U
		13 - 15	0.0543 U	0.0543 U	0.0272 U	0.0272 U	0.0543 U	0.0543 U	0.109 U	0.0272 U	0.0272 U	0.0543 U	0.0272 U	0.0272 U		0.0543 U	0.0543 U	0.0543 U	0.0272 U
B-7	8/29/2012	3 - 5	0.0505 U	0.0505 U	0.0252 U	0.0252 U	0.0505 U	0.0505 U	0.101 U	0.0252 U	0.0252 U	0.0505 U	0.0252 U	0.0252 U		0.0505 U	0.0505 U	0.0505 U	0.0252 U
	2/22/22/2	13 - 15	0.0478 U	0.0478 U	0.0239 U	0.0239 U	0.0478 U	0.0478 U	0.0957 U	0.0239 U	0.0239 U	0.0478 U	0.0239 U	0.0239 U	+	0.0478 U	0.0478 U	0.0478 U	0.0239 U
B-8	8/27/2012	5 - 7	0.0467 U	0.0467 U	0.0234 U	0.0234 U	0.0467 U	0.0467 U	0.0934 U	0.0234 U	0.0234 U	0.0467 U	0.0234 U	0.0234 U		0.0467 U	0.0467 U	0.0467 U	0.0234 U
	0/07/0040	13 - 15	0.0559 UJ	0.0559 UJ	0.0279 UJ	0.0279 UJ	0.0559 UJ	0.0559 UJ	0.112 UJ	0.0279 UJ	0.0279 UJ	0.0559 UJ	0.0279 UJ	0.0279 UJ		0.0559 UJ	0.0559 UJ	0.0559 UJ	0.0279 UJ
B-9	8/27/2012	12 - 14	0.0765 U	0.0765 U	0.0383 U	0.0383 U	0.0765 U	0.0765 U	0.153 U	0.0383 U	0.0383 U	0.0765 U	0.0383 U	0.0383 U	1	0.0765 U	0.0765 U	0.0765 U	0.0383 U
		26 - 28 48 - 50	0.0549 U	0.0549 U 0.0481 U	0.0274 U 0.0241 U	0.0274 U 0.0241 U	0.0549 U	0.0549 U	0.11 U 0.0962 U	0.0274 U	0.0274 U 0.0241 U	0.0549 U 0.0481 U	0.0274 U 0.0241 U	0.0274 U 0.0241 U		0.0549 U 0.0481 U	0.0549 U 0.0481 U	0.0549 U 0.0481 U	0.0274 U
D 10	8/28/2012	7 - 9	0.0481 U 0.0686 U	0.0481 U	0.0241 U	0.0241 U	0.0481 U 0.0686 U	0.0481 U 0.0686 U	0.0962 U	0.0241 U 0.0343 U	0.0241 U	0.0481 U	0.0241 U	0.0241 U		0.0481 U	0.0481 U	0.0481 U	0.0241 U 0.0343 U
B-10	0/20/2012	12 - 14	0.0080 U	0.0080 U	0.0343 U	0.0343 U	0.0080 U	0.0080 U	0.15 U	0.0374 U	0.0343 U	0.0080 U	0.0343 U	0.0343 U		0.0080 U	0.0080 U	0.0080 U	0.0343 U
B-11	8/28/2012	3 - 5	0.0715 U	0.0745 U	0.0374 U	0.0374 U	0.0715 U	0.0715 U	0.13 U	0.0374 U	0.0374 U	0.0745 U	0.0358 U	0.0374 U	+	0.0745 U	0.0745 U	0.0745 U	0.0374 U
D 11	0/20/2012	11 - 13	0.0709 U	0.0709 U	0.0355 U	0.0355 U	0.0719 U	0.0719 U	0.142 U	0.0355 U	0.0355 U	0.0719 U	0.0355 U	0.0355 U		0.0713 U	0.0713 U	0.0713 U	0.0355 U
B-12	8/29/2012	5 - 7	0.0468 U	0.0468 U	0.0234 U	0.0234 U	0.0468 U	0.0468 U	0.0936 U	0.0234 U	0.0234 U	0.0468 U	0.0234 U	0.0234 U		0.0468 U	0.0468 U	0.0468 U	0.0234 U
B-13	8/29/2012	8 - 10	0.0464 U	0.0464 U	0.0232 U	0.0232 U	0.0464 U	0.0464 U	0.0928 U	0.0232 U	0.0232 U	0.0464 U	0.0232 U	0.0232 U		0.0464 U	0.0464 U	0.0464 U	0.0232 U
	., ., .	18 - 20	0.0483 U	0.0483 U	0.0241 U	0.0241 U	0.0483 U	0.0483 U	0.0966 U	0.0241 U	0.0241 U	0.0483 U	0.0241 U	0.0241 U	0.483 U	0.0483 U	0.0483 U	0.0483 U	0.0241 U
B-14	8/28/2012	3 - 5	0.0482 U	0.0482 U	0.0241 U	0.0241 U	0.0482 U	0.0482 U	0.0964 U	0.0241 U	0.0241 U	0.0482 U	0.0241 U	0.0241 U	0.482 U	0.0482 U	0.0482 U	0.0482 U	0.0241 U
		13 - 15	0.0482 U	0.0482 U 0.0494 U	0.0241 U	0.0241 U	0.0482 U	0.0482 U	0.0984 U	0.0241 U	0.0241 U	0.0482 U	0.0241 U	0.0241 U		0.0482 U	0.0482 U	0.0482 U	0.0241 U
B-15	8/28/2012	5 - 7	0.0498 U	0.0494 U	0.0247 U	0.0247 U	0.0494 U	0.0494 U	2.57	0.0247 U	0.0247 U	0.0494 U	0.0247 U	0.0247 U		0.0494 U	0.0494 U	0.0494 U	0.0247 U
D 13	0/20/2012	10 - 12	0.05 U	0.05 U	0.025 U	0.025 U	0.05 U	0.05 U	3.49	0.025 U	0.025 U	0.05 U	0.025 U	0.025 U	0.5 U	0.05 U	0.05 U	0.05 U	0.025 U
		18 - 20							0.00784 U ^d										
B-16	8/29/2012	3 - 5	0.0598 U	0.0598 U	0.0299 U	0.0299 U	0.0598 U	0.0598 U	0.12 U	0.0299 U	0.0299 U			0.0299 U	0.59811	0.0598 U	0.0598 U	0.0598 U	0.0299 U
5 10	0/23/2012	13 - 15	0.0674 U	0.0674 U	0.0337 U	0.0337 U	0.0674 U	0.0674 U	0.135 U	0.0337 U		0.0674 U		0.0337 U		0.0674 U		0.0674 U	0.0337 U
		18 - 20	0.0477 U	0.0477 U	0.0238 U	0.0238 U	0.0477 U	0.0477 U	0.0953 U	0.0238 U				0.0238 U		0.0477 U		0.0477 U	0.0238 U
MW-1	11/5/2012	13 - 14	0.0511 U	0.0511 U	0.0255 U	0.0255 U	0.0511 U	0.0511 U	0.102 U	0.0255 U				0.0255 U		0.0511 U	_	0.0511 U	0.0255 U
	, , ,	53 - 54	0.0435 U	0.0435 U	0.0217 U	0.0217 U	0.0435 U	0.0435 U	0.0869 U	0.0217 U		0.0435 U		0.0217 U		0.0435 U	0.0435 U	0.0435 U	0.0217 U
		75 - 76	0.0431 U	0.0431 U	0.0215 U	0.0215 U	0.0431 U	0.0431 U	0.0861 U	0.0215 U	0.0215 U	0.0431 U		0.0215 U		0.0431 U	0.0431 U	0.0431 U	0.0215 U
MW-2	11/6/2012	8 - 9				0.0352 U	0.0704 U		0.141 U	0.0352 U						0.0704 U	0.0704 U		
		24 - 25				0.0282 U	0.0565 U		0.113 U	0.0282 U						0.0565 U	0.0565 U		
	11/7/2012	53.5 - 54.5	0.0453 U	0.0453 U	0.0226 U	0.0226 U	0.0453 U	0.0453 U	0.0905 U	0.0226 U	0.0226 U	0.0453 U	0.0226 U	0.0226 U	0.453 UJ	0.0453 U	0.0453 U	0.0453 U	0.0226 U
		85 - 86	0.0529 U	0.0529 U	0.0264 U	0.0264 U	0.0529 U	0.0529 U	0.106 U	0.0264 U	0.0264 U	0.0529 U		0.0264 U		0.0529 U	0.0529 U	0.0529 U	0.0264 U
MW-3	11/8/2012	18.5 - 19.5	0.0476 U	0.0476 U	0.0238 U	0.0238 U	0.0476 U	0.0476 U	0.0953 U	0.0238 U				0.0238 U		0.0476 U	0.0476 U	0.0476 U	0.0238 U
		51.5 - 52.5	0.0474 U	0.0474 U	0.0237 U	0.0237 U	0.0474 U	0.0474 U	0.0948 U	0.0237 U	0.0237 U	0.0474 U		0.0237 U		0.0474 U	0.0474 U	0.0474 U	0.0237 U
		71 - 72	0.0491 U	0.0491 U	0.0246 U	0.0246 U	0.0491 U	0.0491 U	0.0983 U	0.0246 U	0.0246 U	0.0491 U				0.0491 U	0.0491 U	0.0491 U	0.0246 U
MW-4	11/9/2012	9 - 10	0.0493 U	0.0493 U	0.0246 U	0.0246 U	0.0493 U	0.0493 U	0.0986 U	0.0246 U	0.0246 U	0.0493 U		0.0246 U		0.0493 U	0.0493 U	0.0493 U	0.0246 U
	11/12/2012	59 - 60	0.0452 U	0.0452 U	0.0226 U	0.0226 U	0.0452 U	0.0452 U	0.0904 U	0.0226 U		0.0452 U		0.0226 U		0.0452 U	0.0452 U	0.0452 U	0.0226 U
		85 - 86	0.0643 U	0.0643 U	0.0321 U	0.0321 U	0.0643 U	0.0643 U	0.129 U	0.0321 U		0.0643 U		0.0321 U	1	0.0643 U	0.0643 U	0.0643 U	0.0321 U
MW-5	11/13/2012	25 - 26	0.0457 U	0.0457 U	0.0229 U	0.0229 U	0.0457 U	0.0457 U	0.0914 U	0.0229 U		0.0457 U		0.0229 U		0.0457 U	0.0457 U	0.0457 U	0.0229 U
	11/14/2012	86-87	0.0555 U	0.0555 U	0.0277 U	0.0277 U	0.0555 U	0.0555 U	0.111 U	0.0277 U	0.0277 U	0.0555 U	0.0277 U	0.0277 U	0.555 U	0.0555 U	0.0555 U	0.0555 U	0.0277 U

Table 2 2012-2013 Soil Analytical Results - VOCs (mg/kg) Crown Cork and Seal Portland, Oregon

																			1
CMR-1	12/2/2013	1-2	0.0559 U	0.0559U	0.0279 U	0.0279U	0.0559U	0.0559U	0.112U	0.0279 U	0.0279 U	0.559 U	0.0279 U	0.0559 U	0.0279U	0.0559 U	0.0559 U	0.0559 U	0.0279 U
		4-5	0.0561 U	0.0561U	0.0280 U	0.0280U	0.0561U	0.0561U	0.112U	0.0280 U	0.0280 U	0.561 U	0.0280 U	0.0561 U	0.0280 U	0.0561 U	0.0561 U	0.0561 U	0.0280 U
		6-7	0.0577 U	0.0577U	0.0288 U	0.0288U	0.0577U	0.0577U	0.115U	0.0288 U	0.0288 U	0.577 U	0.0288 U	0.0577 U	0.0288 U	0.0577 U	0.0577 U	0.0577 U	0.0288 U
CMR-2	12/2/2013	1-2	0.0644U	0.0644U	0.0322 U	0.0322U	0.0644	0.0644U	0.129U	0.0322 U	0.0322 U	0.644 U	0.0599	0.0644 U	0.0322 U	0.0644 U	0.0644 U	0.0644 U	0.0322 U
		7-8	79.9	12.6	0.732 U	46.8	25.4	7.8	45.8	101	5.6	14.6 U	0.732 U	1.46 U	0.732 U	272	128	155	67.5
		10-11	0.0665U	0.0665U	0.0332 U	0.0332U	0.0665U	0.0665U	0.133U	0.0332 U	0.0332 U	0.665 U	0.0332 U	0.0665 U	0.0332 U	0.0665 U	0.0665 U	0.0665 U	0.0332 U
		14-15	0.0792U	0.0792U	0.0396 U	0.0396U	0.0792U	0.0792U	0.158U	0.0396 U	0.0396 U	0.792 U	0.0396 U	0.0792 U	0.0396 U	0.0792 U	0.0792 U	0.0792 U	0.0396 U
CMR-3	12/2/2013	1-2	0.0559U	0.0559U	0.0280 U	0.0280U	0.0559U	0.0559U	0.112U	0.0280 U	0.101	0.559 U	0.0643	0.0559 U	0.0280 U	0.0559 U	0.0559 U	0.0559 U	0.0280 U
		4-5	0.0608U	0.0608U	0.0304 U	0.0371	0.0608U	0.0608U	0.122U	0.0304 U	0.0304 U	0.608 U	0.0304 U	0.0608 U	0.0304 U	0.0608 U	0.0608 U	0.106	0.0766
		14-15	0.0784U	0.0784U	0.0392 U	0.0392U	0.0784U	0.0784U	0.157U	0.0392 U	0.0392 U	0.784 U	0.0392 U	0.0784 U	0.0392 U	0.0784 U	0.0784 U	0.0784 U	0.0392 U
CMR-4	12/2/2013	1-2	0.0571U	0.0571U	0.0285 U	0.0285U	0.0571U	0.0571U	0.114U	0.0285 U	0.032	0.571 U	0.0285 U	0.0571 U	0.0285 U	0.0594 U	0.0571 U	0.0571 U	0.0285 U
		6-7	0.0602U	0.0602U	0.0301 U	0.0301U	0.0602U	0.0602U	0.120U	0.0301 U	0.0578	0.602 U	0.0403	0.0602 U	0.0301 U	0.0602 U	0.0602 U	0.0602 U	0.0301 U
		15-16	0.0737U	0.0737U	0.0368 U	0.0368U	0.0737U	0.0737U	0.147U	0.0368 U	0.0368 U	0.737 U	0.0368 U	0.0737 U	0.0368 U	0.0737 U	0.0737 U	0.0737 U	0.0368 U
		22-23	0.0755U	0.0755U	0.0378 U	0.0378U	0.0755U	0.0755U	0.151U	0.0378 U	0.0378 U	0.755 U	0.0378 U	0.0755 U	0.0378 U	0.0755 U	0.0755 U	0.0755 U	0.0378 U
CMR-5	12/2/2013	1-2	0.0631U	0.0631U	0.0315 U	0.0315U	0.0631U	0.0631U	0.126 U	0.0315 U	0.0315 U	0.631 U	0.0315 U	0.0631 U	0.0315 U	0.0631 U	0.0631 U	0.0631 U	0.0315 U
		7-8	0.0660U	0.0660U	0.0330 U	0.0330U	0.0660U	0.0660U	0.132 U	0.0330 U	0.141	0.660 U	0.0502	0.0660 U	0.0330 U	0.0660 U	0.0660 U	0.0660 U	0.0330 U
		15-16	0.0746U	0.0746U	0.0373 U	0.0373U	0.0746U	0.0746U	0.149 U	0.0373 U	0.0373 U	0.746 U	0.0373 U	0.0746 U	0.0373 U	0.0746 U	0.0746 U	0.0746 U	0.0373 U
CMR-6	12/2/2013	1-2	0.0609U	0.0730U	0.0304 U	0.0304U	0.0609U	0.0609U	0.122 U	0.0304 U	0.0304 U	0.609 U	0.0304 U	0.0609 U	0.0304 U	0.0609 U	0.0609 U	0.0609 U	0.0304 U
		5-6	0.0580U	0.0580U	0.0290 U	0.0290U	0.0580U	0.0580U	0.116 U	0.0290 U	0.0290 U	0.580 U	0.0290 U	0.0580 U	0.0290 U	0.0580 U	0.0580 U	0.0580 U	0.0290 U
		10.5-11.5	0.0730U	0.0730U	0.0365 U	0.0365U	0.0730U	0.0730U	0.146 U	0.0365 U	0.0365 U	0.730 U	0.0365 U	0.0730 U	0.0365 U	0.0730 U	0.0730 U	0.0730 U	0.0365 U

b= http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/docs/indsoil_sl_table_01run_JAN2015.pdf

UJ - Compound was analyzed for but not detected above the reporting limit shown. Reporting limit is an estimated value. risks in this scenario.

Bold values indicate the chemical was detected above the laboratory reporting limit.

Bold and highlighted values exceed the most stringent RBC applicable to the site.

bgs - below ground surface

VOC - volatile organic compound

DEQ - Oregon Department of Environmental Quality

mg/kg - milligram per kilogram

NE - not established

1,1-DCA - 1,1 Dichloroethane

PCE - Tetrachloroethene

1,1,1-TCA - 1,1,1-Trichloroethane

MiBK - 4-Methyl-2-pentanone

1,2,4-TMB - 1,2,4-Trimethylbenzene

1,3,5-TMB - 1,3,5-Trimethylbenzene

^a DEQ, 2012. Hot Spot Concentrations. http://www.deq.state.or.us/lq/pubs/docs/RBDMHotSpotTable.pdf.

^c DEQ, 2012. Risk-based Concentrations for Individual Chemicals. DEQ Environmental Cleanup and Tanks Program. Revision: June 7.

 $^{^{\}rm e}$ Only VOCs detected above the laboratory reporting limit are presented in this table.

d RBC for total xylenes

⁻⁻ not analyzed

U - Compound was analyzed for but not detected above the reporting limit shown.

Sample ID	Sample Date	Sample Depth (feet bgs)		TPH	I
-			Gasoline	Diesel	Oil
	Direct Contact Constructio		9,700	4,600	4,600
DEQ RBCs ^a	Direct Contact Excavation		>Max	>Max	>Max
	Volatilization to Outdoor A		69,000	>Max	>Max
	Vapor Intrusion Occupatio	naı	>Max	>Max	>Max
		2 - 4	61,500 b	10,300 °	667 U
B-1	8/30/2012	6 - 8	16,100 b	11,200 °	664 U
		15 - 17	4,110 ^b	507 ⁵	72.8 U
B-2	8/27/2012	1 - 3	4.83 UJ	25 U	50 U
		12 - 14	7.27 U	25.8 U	51.5 U
B-3	8/30/2012	2 - 4	6.27 U	25 U	50 U
		8 - 10	4.48 U	25 U	50 U
B-4	8/30/2012	2 - 4	5.64 U	25 U	50 U
		10 - 12	4.88 U	25 U	50 U
		5 - 7	5.13 U	25 U	55.5 J
B-5	8/28/2012	10 - 12 15 - 17	4.59 U	25 U	146
			4.94 U	33.8 U	555 J
		23-25 3 - 5		25 U 25 U	50 U
B-6	8/29/2012		5.49 U		
		13 - 15 3 - 5	5.43 U 5.05 U	25 U 25 U	50 U
B-7	8/29/2012	13 - 15	4.78 U	25 U	50 U
		5 - 7	4.67 U	25 U	357
B-8	8/27/2012	13 - 15	5.59 UJ	25 U	50 U
		12 - 14	7.65 U	25 U	50 U
B-9	8/27/2012	26 - 28	5.49 U	25 U	50 U
	0/2//2012	48 - 50	4.81 U	25 U	50 U
		7 - 9	6.86 U	25 U	50 U
B-10	8/28/2012	12 - 14	7.49 U	25 U	50 U
	- / /	3 - 5	7.15 U	26.5 U	53 U
B-11	8/28/2012	11 - 13	7.09 U	25 U	50 U
B-12	8/29/2012	5 - 7	4.68 U	29 U	190
	0/20/2012	8 - 10	4.64 U	25 U	50 U
B-13	8/29/2012	18 - 20	4.83 U	25 U	50 U
B-14	8/28/2012	3 - 5	4.82 U	25 U	50 U
D-14	0/20/2012	13 - 15	4.94 U	25 U	50 U
B-15	8/28/2012	5-7	5.06	25 U	50 U
D-13	0/20/2012	10 - 12	6.64	25 U	50 U
		3 - 5	5.98 U	25 U	50 U
B-16	8/29/2012	13 - 15	6.74 U	25 U	50 U
		18 - 20	4.77 U	25 U	50 U
		13 - 14	5.11 U	25 U	50 U
MW-1	11/5/2012	53 - 54	4.35 U	25 U	50 U
		75 - 76	4.31 U	25 U	50 U
	11/6/2012	8 - 9	7.04 U	25 U	50 U
MW-2		24 - 25	5.65 U	25 U	50 U
	11/7/2012	53.5 - 54.5	4.53 U	25 U	50 U
		85 - 86	5.29 U	25 U	50 U
NAVA/ 2	11/0/2012	18.5 - 19.5	4.76 U	25 U	50 U
MW-3	11/8/2012	51.5 - 52.5	4.74 U	25 U	50 U
	11/0/2012	71 - 72	4.91 U	25 U	50 U
MW-4	11/9/2012	9 - 10 59 - 60	4.93 U 4.52 U	25 U	50 U
IVI VV -4	11/12/2012			25 U	
	1	85 - 86	6.43 U	25 U	50 U

Table 3
2012 Soil Analytical Results for TPH (mg/kg)
Crown Cork and Seal
Portland, Oregon

		1-2	5.59 U	25 U	50 U
CMR-1	12/2/2013	4-5	5.61 U	25 U	50 U
		6-7	5.77 U	25 U	50 U
		1-2	6.44 U	25 U	50 U
CMR-2	12/2/2013	7-8	10,400	319	286
CIVIR-2	12/2/2013	10-11	6.65 U	25 U	50 U
		14-15	7.92 U	25 U	50 U
		1-2	5.59 U	25 U	50 U
CMR-3	12/2/2013	4-5	6.08 U	25 U	50 U
		14-15	7.84 U	25 U	50 U
		1-2	5.71 U	25 U	50 U
CMR-4	12/2/2013	6-7	6.02 U	25 U	73.3
CIVIN-4	12/2/2013	15-16	7.37 U	25 U	52.5 U
		22-23	7.55 U	25 U	50 U
		1-2	6.31 U	25 U	50 U
CMR-5	12/2/2013	7-8	6.60 U	25 U	50 U
		15-16	7.46 U	25 U	50 U
		1-2	6.09 U	25 U	50 U
CMR-6	12/2/2013	5-6	5.80 U	25 U	50 U
		10.5-11.5	7.30 U	25 U	50 U

bgs - below ground surface

DEQ - Oregon Department of Environmental Quality

mg/kg - milligrams per kilogram

RBC - risk-based concentration

TPH - total petroleum hydrocarbon

 $\mbox{\bf U}$ - Compound was analyzed for but not detected above the reporting limit shown.

>Max - The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg.

Therefore, this substance is deemed not to pose risks in this scenario.

Bold values indicate the chemical was detected above the laboratory reporting limit.

Bold and highlighted values exceed the most stringent RBC applicable to the site.

^a DEQ, 2012. Risk-based Concentrations for Individual Chemicals. DEQ Environmental Cleanup and Tanks Program. Revision: June 7.

^b The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

^c Results for diesel are due to overlap from a gasoline range product.

⁻⁻ not analyzed

Table 4
2012 Soil Analytical Results for PAHs (mg/kg)
Crown Cork and Seal
Portland, Oregon

Sample ID	Sample Date	Sample Depth (feet						PAHs ^c					
Sample 15	Sample Bate	bgs)	Benz(a)anthracene	Benzo(b+k)fluoranthene(s)	Benzo(g,h,i)perylene	Chrysene	Fluoranthene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
Hot-Spot	Direct Contact Construction	n Worker (> 3 feet bgs)	2,100	2,100 / 21,000 ^d	NE	210,000	89,000	2,100	NE	NE	7,400	NE	67,000
Concentrations ^a	Direct Contact Excavation \	Worker	59,000	59,000 / 590,000 ^d	NE	NE	NE	59,000	NE	NE	210,000	NE	NE
	Direct Contact Construction	n Worker (> 3 feet bgs)	21	21 / 210 ^d	NE	2,100	8,900	21	NE	NE	580	NE	6,700
DEQ RBCs ^b	Direct Contact Excavation \	Worker	590	590 / 5,900 ^d	NE	57,000	250,000	590	NE	NE	16,000	NE	190,000
DLQ NDC3	Volatilization to Outdoor A	ir Occupational	NE	NE	NE	NE	NE	NE	NE	NE	99	NE	NE
	Vapor Intrusion Occupation	nal	NE	NE	NE	NE	NE	NE	NE	NE	99	NE	NE
D 1	8/30/2012	2 - 4	0.218 U	0.218 U	0.218 U	0.218 U	0.218 U	0.218 U	0.218 U	0.296	7.97	0.218 U	0.218 U
D-1	8/30/2012	6 - 8	0.353	0.992	0.437	1.03	2.18	0.419	1.52	3.97	174	2.92	2.43
		5 - 7	0.0106 U	0.0106 U	0.0106 U	0.0106 U	0.0106 U	0.0106 U	0.0106 U	0.0106 U	0.0106 U	0.0106 U	0.0106 U
B-5	8/28/2012	15 - 17	0.0128 U	0.0213 U	0.0107 U	0.0139 U	0.0107 U	0.0107 U	0.0107 U	0.0107 U	0.0107 U	0.0107 U	0.0107 U
		23-25	0.0128 U	0.0213 U	0.0107 U	0.0139 U	0.0107 U	0.0107 U	0.0107 U	0.0107 U	0.0107 U	0.0107 U	0.0107 U
B-8	8/27/2012	5 - 7	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U	0.081 U
B-12	8/29/2012	5 - 7	0.0103 U	0.0103 U	0.0103 U	0.0103 U	0.0103 U	0.0103 U	0.0103 U	0.0103 U	0.0103 U	0.0103 U	0.0103 U
B-15	8/28/2012	18-20	0.00784 UJ	0.00784 UJ	0.00784 UJ	0.00784 UJ	0.00784 UJ	0.00784 UJ	0.00784 UJ	0.00784 UJ	0.00784 UJ	0.00784 UJ	0.00784 UJ

<u>Notes</u>

-- not analyzed

bgs - below ground surface

DEQ - Oregon Department of Environmental Quality

J - estimated value

mg/kg - milligram per kilogram

NE - not established

PAH - polyaromatic hydrocarbons

RBC - risk-based concentration

U - Compound was analyzed for but not detected above the reporting limit shown.

UJ - Compound was analyzed for but not detected above the reporting limit shown. Reporting limit is an estimated value.

Bold values indicate the chemical was detected above the laboratory reporting limit.

Bold and highlighted values exceed the most stringent RBC applicable to the site.

^a DEQ, 2012. Hot Spot Concentrations. http://www.deq.state.or.us/lq/pubs/docs/RBDMHotSpotTable.pdf.

^b DEQ, 2012. Risk-based Concentrations for Individual Chemicals. DEQ Environmental Cleanup and Tanks Program. Revision: June 7.

 $^{^{\}rm c}$ Only PAHs detected above the laboratory reporting limit are presented in this table.

^d RBC for benzo(b)fluoranthene/benzo(k)fluoranthene

Table 5
2012 Soil Analytical Results for PCBs (mg/kg)
Crown Cork and Seal
Portland, Oregon

Sample ID	Sample Date	Sample Depth				PCBs			
Sample 1D	Sample Date	(feet bgs)	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
	Direct Contact Construction	Worker (> 3 feet bgs)	4.4 ^b						
DEQ RBCs ^a	Direct Contact Excavation V			120 ^b					
DEQ NDC3	Volatilization to Outdoor A	ion to Outdoor Air Occupational		NE	NE	NE	NE	NE	NE
	Vapor Intrusion Occupation	•		NE	NE	NE	NE	NE	NE
EPA RSL	Industrial Soil		30	1	1	1	1	1	1
B-5	8/28/2012	10 - 12	0.00952 U						
B-11	8/28/2012	3 - 5	0.0117 U						
B-16	8/29/2012	3 - 5	0.0104 U						

<u>Notes</u>

-- not analyzed

bgs - below ground surface

DEQ - Oregon Department of Environmental Quality

mg/kg - milligram per kilogram

NE - not established

PCBS - polychlorinated biphenylS

RBC - risk-based concentration

U - Compound was analyzed for but not detected above the reporting limit shown.

Bold values indicate the chemical was detected above the laboratory reporting limit.

^a DEQ, 2012. Risk-based Concentrations for Individual Chemicals. DEQ Environmental Cleanup and Tanks Program. Revision: June 7.

^b RBC for total PCBs

Table 6
2012 Soil Analytical Results for Metals (mg/kg)
Crown Cork and Seal
Portland, Oregon

Boring ID	Sample Date	Sample Depth				Metals				
BOTTING ID	Sample Date	(feet bgs)	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
Hot-Spot	Direct Contact Construction	Worker (> 3 feet bgs)	850	600,000	1,500	4,300 ^e	8,000	930	NE	15,000
Concentrations ^a	Direct Contact Excavation V	Vorker	24,000	NE	43,000	120,000 ^e	8,000	26,000	NE	430,000
	Direct Contact Construction	Worker (> 3 feet bgs)	13	60,000	150	43 ^e	800	93	NE	1,500
DEQ RBCs ^b	Direct Contact Excavation V	Vorker	370	>Max	4,300	1,200 ^e	800	2,600	NE	43,000
DLQ NDC3	Volatilization to Outdoor A	r Occupational	NE	NE	NE	NE	NE	NE	NE	NE
	Vapor Intrusion Occupational		NE	NE	NE	NE	NE	NE	NE	NE
EPA RSL ^c	Industrial Soil		NE	NE	NE	NE	NE	NE	5,800	NE
DEQ Portland Basiı	n Background Concentration	s ^d	9	790	1	76	79	93	0.71	0.82
B-4	8/30/2012	2 - 4	3.35	138	1.33 U	10.1	8.52	0.106 U	2.66 U	1.33 U
B-6	8/29/2012	3 - 5	6.12	192	1.15 U	13.9	24.5	0.0923 U	2.31 U	1.15 U
B-8	8/27/2012	13 - 15	2.25 U	150	1.12 U	4.64	4.75	0.0899 U	2.25 U	1.12 U
B-9	8/27/2012 12 - 14		3.96	135	1.31 U	11.2	8.57	0.105 U	2.63 U	1.31 U
B-10	8/28/2012 7 - 9		11.9	156	1.29 U	21.1	11.1	0.104 U	2.59 U	1.29 U
B-13	8/29/2012	8 - 10	2.16 U	74	1.08 U	4.76	2.37	0.0866 U	2.16 U	1.08 U
B-14	8/28/2012 3 - 5		2.27 U	109	1.13 U	5.47	3.21	0.0907 U	2.27 U	1.13 U

c= http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/Generic_Tables/docs/indsoil_sl_table_01run_JAN2015.pdf

-- not analyzed

bgs - below ground surface

DEQ - Oregon Department of Environmental Quality

mg/kg - milligram per kilogram

NE - not established

RBC - risk-based concentration

U - Compound was analyzed for but not detected above the reporting limit shown.

>Max - The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg. Therefore, this substance is deemed not to pose risks in this scenario.

Bold values indicate the chemical was detected above the laboratory reporting limit.

Bold and highlighted values exceed the most stringent RBC applicable to the site.

^a DEQ, 2012. Hot Spot Concentrations. http://www.deq.state.or.us/lq/pubs/docs/RBDMHotSpotTable.pdf.

^b DEQ, 2012. Risk-based Concentrations for Individual Chemicals. DEQ Environmental Cleanup and Tanks Program. Revision: June 7.

^d Development of Oregon Background Metals Concentrations Soil, Portland Basin, (DEQ 2013). If the detected concentration is lower than the Background concentration, then the Background is sel

^e RBC for chromium VI.

Table 7 2012-2013 Groundwater Analytical Results for VOCs (ug/L) Crown Cork and Seal Portland, Oregon

										VOCs ^b										
Sample ID	Sample Date	n-Butyl benzene	sec-Butyl benzene	Chloroform	1,1-DCA	1,1-DCE	Ethylbenzene	Isopropyl benzene	4-Isopropyl toluene	Naphthalene	n-Propyl benzene	PCE	Toluene	1,1,1-TCA	TCE	MiBK	1,2,4-TMB	1,3,5-TMB	m,p-Xylene	o-Xylene
	Groundwater in Excavation Construction	NE	NE	720	10,000	1,400	4,400	NE	NE	500	NE	5,400	210,000	1,100,000	430	NE	1,700	23,000	23000 °	23000 °
DEQ RBCs ^a	Volatilization to Outdoor Air Occupational	NE	NE	5,500	73,000	NE	41,000	NE	NE	16,000	NE	NE	NE	NE	19,000	NE	NE	NE	NE	NE
	Vapor Intrusion Occupational	NE	NE	1,200	16,000	340,000	7,400	NE	NE	10,000	NE	32,000	NE	NE	3,300	NE	NE	NE	NE	NE
MCL		NE	NE	NE	NE	NE	700	NE	NE	NE	NE	5	1,000	200	5	NE	NE	NE	10,000	10,000
PH specific fish consumption	175 g/day fish consumption rate	NE	NE	47	NE	NE	210	NE	NE	NE	NE	0.33	1,500	NE	3	NE	NE	NE	NE	NE
rate																				
PH PRG	RAO 4: Migration of Contaminated Groundwater	NE	NE	NE	NE	7	160	NE	NE	NE	NE	0.2	720	NE	1.4	NE	NE	NE	10,000	10,000
MW-1	11/15/2012	1.0 U	1.0 U	10.2	1.01	2.02	0.5 U	1.0 U	1.0 U	2.0 U	0.5 U	0.5 U	1.0 U	1.58	0.5 U	10.0 U	1.0 U	1.0 U	1.0 U	0.5 U
	1/16/2013	1.0 U	1.0 U	0.251	1.54	2.80	0.5 U	1.0 U	1.0 U	2.0 U	0.5 U	0.5 U	1.0 U	0.880	0.0321 J	10.0 U	1.0 U	1.0 U	1.0 U	0.5 U
MW-2	11/16/2012	1.0 U	1.0 U	16.1	0.5 U	1.1	0.5 U	1.0 U	1.0 U	2.0 U	0.5 U	0.5 U	1.0 U	1.13	0.5 U	10.0 U	1.0 U	1.0 U	1.0 U	0.5 U
	1/15/2013	1.0 U	1.0 U	0.480	0.920	1.89	0.5 U	1.0 U	1.0 U	2.0 U	0.5 U	0.5 U	1.0 U	2.13	0.0346 J	10.0 U	1.0 U	1.0 U	1.0 U	0.5 U
MW-3	11/16/2012	1.0 U	1.0 U	6.65	0.5 U	0.89	0.5 U	1.0 U	1.0 U	2.0 U	0.5 U	0.5 U	1.0 U	1.55	0.5 U	10.0 U	1.0 U	1.0 U	1.0 U	0.5 U
	1/16/2013	1.0 U	1.0 U	1.41	0.5 U	1.57	0.5 U	1.0 U	1.0 U	2.0 U	0.5 U	0.5 U	1.0 U	1.67	0.0400 U	10.0 U	1.0 U	1.0 U	1.0 U	0.5 U
MW-4	11/15/2012	1.0 U	1.0 U	5.64	0.8	74.5	0.5 U	1.0 U	1.0 U	2.0 U	0.5 U	0.5 U	1.0 U	43.7	0.5 U	10.0 U		1.0 U	1.0 U	0.5 U
	1/15/2013	1.0 U	1.0 U	5.36	1.37	109	0.5 U	1.0 U	1.0 U	2.0 U	0.5 U	0.5 U	1.0 U	45.0	0.191	10.0 U		1.0 U	1.0 U	0.5 U
MW-5	11/16/2012	1.0 U	1.0 U	4.8	0.5 U	1.68	0.5 U	1.0 U	1.0 U	2.0 U	0.5 U	0.5 U	1.0 U	2.02	0.5 U	10.0 U		1.0 U	1.0 U	0.5 U
	1/15/2013	1.0 U	1.0 U	2.01	0.440 J	2.46	0.5 U	1.0 U	1.0 U	2.0 U	0.5 U	0.5 U	1.0 U	1.89	0.0204 J	10.0 U	1.0 U	1.0 U	1.0 U	0.5 U

^a DEQ, June 2012. Risk-based Concentrations for Individual Chemicals, Occupational Exposure. Oregon Department of Environmental Quality, Environmental Cleanup and Tanks Program.

^b Only VOCs detected above the laboratory reporting limit and/or previously detected in soil borings conducted in August 2012 are presented in this table. Samples were analyzed by EPA Method 8260.

^c RBC for total xylenes

DEQ - Oregon Department of Environmental Quality

J -estimated value

ug/L - microgram per liter

NE - not established

1,1-DCA - 1,1 Dichloroethane

1,1 DCE - 1,1-Dichloroethene PCE - Tetrachloroethene

1,1,1-TCA - 1,1,1-Trichloroethane

TCE - trichloroethene

MiBK - 4-Methyl-2-pentanone

1,2,4-TMB - 1,2,4-Trimethylbenzene

1,3,5-TMB - 1,3,5-Trimethylbenzene RBC - risk-based concentration

U - Compound was analyzed for but not detected above the reporting limit shown.

VOC - volatile organic compound

Bold values indicate the chemical was detected above the laboratory reporting limit.

Bold and highlighted values exceed the most stringent RBC applicable to the site.

Highlighted values indicate the reporting limit was higher than the lowest screening criterion applicable to the site.

Table 8
2012 Groundwater Analytical Results for TPH (mg/L)
Crown Cork and Seal
Portland, Oregon

Sample ID	Sample Date		TPH	
Sample ID	Sample Date	Gasoline	Diesel	Oil
	Groundwater in Excavation Construction	14	NE	NE
DEQ RBCs	Volatilization to Outdoor Air Occupational	>S	>S	>S
	Vapor Intrusion Occupational	>S	>S	>\$
MW-1	11/15/2012	0.1 U	0.189 U	0.377 U
MW-2	11/16/2012	0.1 U	0.187 U	0.374 U
MW-3	11/16/2012	0.1 U	0.189 U	0.377 U
MW-4	11/15/2012	0.1 U	0.189 U	0.377 U
MW-5	11/16/2012	0.1 U	0.187 U	0.374 U

DEQ - Oregon Department of Environmental Quality

mg/L - milligram per liter

RBC - risk-based concentration

TPH - total petroleum hydrocarbon

U - Compound was analyzed for but not detected above the reporting limit shown.

>S - This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of the solubility limit indicate that free product may be present.

^a DEQ, 2011. Risk-based Concentrations for Individual Chemicals, Occupational Exposure. Oregon Department of Environmental Quality, Environmental Cleanup and Tanks Program.

Table 9
2013 Groundwater Analytical Results for PAHs (ug/L)
Crown Cork and Seal
Portland, Oregon

Sample ID	Sample Date				PAHs ^D				
Sample ID	Sample Date	Acenaphthene	Benz(a)anthracene	Dibenzofuran	Fluoranthene	Fluorene	Naphthalene	Phenanthrene	Pyrene
	Groundwater in Excavation Construction	NE	9.1	NE	NE	NE	500	NE	NE
DEQ RBCs ^a	Volatilization to Outdoor Air Occupational	NE	NE	NE	NE	NE	16,000	NE	NE
	Vapor Intrusion Occupational	NE	NE	NE	NE	NE	10,000	NE	NE
MCL		NE	NE	NE	NE	NE	NE	NE	NE
PH specific fish consumption rate	175 g/day consumption rate	99	0.0018	NE	14	530	NE	NE	400
Portland Harbor PRG	RAO 4: Migration of Contaminated Groundwater	NE	0.001	NE	NE	NE	NE	NE	NE
MW-1	1/16/2013	0.0451	0.0385 U	0.0301 J	0.264	0.0459	0.0948	0.462	0.168
MW-2	1/15/2013	0.0374 U	0.0189 J	0.0374 U	0.0500	0.0374 U	0.0748 U	0.0275 J	0.0411
MW-3	1/16/2013	0.0385 U	0.0385 U	0.0385 U	0.0485	0.0385 U	0.0769 U	0.0580	0.0467
MW-4	1/15/2013	0.0278 J	0.0374 U	0.0204 J	0.260	0.0356 J	0.0748 U	0.215	0.155
MW-5	1/15/2013	0.0374 U	0.0374 U	0.0374 U	0.0431	0.0374 U	0.0748 U	0.0250 J	0.0276 J

DEQ - Oregon Department of Environmental Quality

J - estimated value

ug/L - microgram per liter

NE - not established

PAH - polynuclear aromatic hydrocarbon

RBC - risk-based concentration

U - Compound was analyzed for but not detected above the reporting limit shown.

Bold values indicate the chemical was detected above the laboratory reporting limit.

Highlighted values indicate the reporting limit was higher than the lowest screening criterion applicable to the site.

Bold and highlighted values indicate the chemical was detected above the lowest applicable screening criteria

^a DEQ, June 2012. Risk-based Concentrations for Individual Chemicals, Occupational Exposure. Oregon Department of Environmental Quality, Environmental Cleanup and Tanks Program.

^b Analyzed by EPA Method 8270 modified by Select Ion Monitoring (SIM)

Table 10
2014 Indoor Air Analytical Results for Detected VOCs
Crown Cork and Seal
Portland, Oregon

Sample ID	Sample Date	Sample Type							V	OCs (ug/m³)						
Sample 15	Sample Bate	Sample Type	Freon 12	Freon 11	Ethanol	Acetone	Hexane	MiBK	4-Ethyltoluene	1,1,1-TCA	Benzene	Toluene	Ethylbenzene	1,2,4-TMB	m,p-Xylene	o-Xylene
Hot Spot Concentrations ^a	Inhalation Occupational		NE	NE	NE	NE	NE	NE	NE	22,000	160	22,000	490	310	4,400°	4,400 ^c
DEQ RBCs ^b	Inhalation Occ	Inhalation Occupational		3,100	NE	NE	NE	NE	NE	22,000	1.6	22,000	4.9	31	440°	440 ^c
CDR - Coater Drum Room	1/28/2014	8-hour composite	2.4	1.2	4.4	7.3	0.58 U	1.3	0.89	0.39	0.59	1.1	0.40	0.81 U	1.4	0.53
CMR - Coater Mixing Room	1/28/2014	8-hour composite	2.5	1.2	5.1	6.8	0.70	3.1	1.8	0.37	0.58	1.8	0.56	1.3	2.1	0.83
Background	1/28/2014	8-hour composite	2.4	1.2	4.2	7.4	0.55 U	0.63 U	0.76 U	0.17U	0.48	1.1	0.24	0.76 U	0.84	0.28

<u>Notes</u>

DEQ - Oregon Department of Environmental Quality

ug/m³ - micrograms per cubic meter

VOC - volatile organic compound

1,1,1-TCA - 1,1,1-Trichloroethane

MiBK - 4-Methyl-2-pentanone

1,2,4-TMB - 1,2,4-Trimethylbenzene

RBC - risk-based concentration

NE - not established

U - Compound was analyzed for but not detected above the reporting limit shown.

Bold indicates a detection above the reporting limit

^a DEQ, 2012. Hot-Spot Concentrations. http://www.deq.state.or.us/lq/pubs/docs/RBDMHotSpotTable.pdf

^b DEQ, 2012. Risk-based Concentrations for Individual Chemicals, Occupational Exposure. Oregon Department of Environmental Quality, Environmental Cleanup and Tanks Program. c RBC for total xylenes.

Table 11
2014 Indoor Air Analytical Results for TPH
Crown Cork and Seal
Portland, Oregon

Sample ID	Sample Date	Sample Type	TPH (ug/m³) Gasoline
DEQ RBCs ^a	Inhalation Occupa	ational	1,700,000
CDR - Coater Drum Room	1/28/2014	8-hour composite	0.17 U
CMR - Coater Mixing Room	1/28/2014	8-hour composite	0.16 U
Background	1/28/2014	8-hour composite	0.16 U

^a DEQ, 2012. Risk-based Concentrations for Individual Chemicals, Occupational Exposure. Oregon DEQ - Oregon Department of Environmental Quality

ug/m³ - micrograms per cubic meter

NE - not established

RBC - risk-based concentration

U - Compound was analyzed for but not detected above the reporting limit shown.

TPH - Total Petroleum Hydrocarbons

Table 12 2015 Groundwater Analytical Results Crown Cork and Seal Portland, Oregon

		Sample Resu	ults (ug/L)						Portland Harbor PRG ⁽²⁾	DEQ R	BCs ⁽¹⁾
Site ID	MW-1	MW-2	MW-3	MW-3 DUP	MW-4	MW-5		PH specific fish consumption rate ⁽²⁾	RAO 4	Volatilization to Outdoor Air	Vapor Intrusion into Buildings
Sample Date	4/16/2015	4/16/2015	4/17/2015	4/17/2015	4/16/2015	4/16/2015	MCL ⁽⁴⁾	175 g/day consumption rate	Migration of Contaminated Groundwater	Occupational Worker	Occupational Worker
Metals				<u> </u>							
Arsenic	1.90 J	1.80 J	1.40 U	1.40 U	3.50 J	2.30 J	10.0	0.014	0.020	-	-
Barium	45.0	28.0	39.0	38.0	19.0	25.0	-	-	-	-	-
Cadmium	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	5.0	-	-	-	-
Chromium	0.880 J	2.90	3.40	2.70	6.40	5.60	100	-	100	-	-
Lead	0.250 J	0.170 U	0.190 J	0.170 J	0.830 J	0.370 J	15.0	-	-	-	-
Mercury	0.0410 U	0.0410 U	0.0410 U	0.0410 U	0.0410 U	0.0410 U	2.0	0.0146	-	-	-
Selenium	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	50.0	420	-	-	-
Silver	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	100	-	-	-	-
Petroleum Hydrocarbons				,							
Gasoline Range	27.0 U	27.0 U	27.0 U	27.0 U	27.0 U	27.0 U	-	-	-	-	-
Diesel Range	38.0 J	14.0 U	19.0 J	17.0 J	14.0 U	14.0 U	-	-	-	-	-
Residual Range	24.0 J	23.0 J	13.0 J	13.0 J	17.0 J	20.0 J	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons	(PAHs)										
Acenaphthene	0.0310	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	99.0	-	-	-
Acenaphthylene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	-	-	-	-
Anthracene	0.00950 J	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	4000	-	-	-
Benzo(a)anthracene	0.00930 J	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	0.0018	0.001	-	-
Benzo(a)pyrene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	0.20	0.0018	0.001	-	-
Benzo(b)fluoranthene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	0.0018	0.001	-	-
Benzo(g,h,i)perylene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	-	-	-	-
Benzo(k)fluoranthene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	0.0018	0.001	-	-
Chrysene	0.0160 J	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	0.0018	0.001	-	-
Dibenz(a,h)anthracene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	0.0018	0.001	-	-
Fluoranthene	0.300	0.0230	0.0160 J	0.0170 J	0.00580 U	0.00580 U	-	14.0	-	-	-
Fluorene	0.0480	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	530	-	-	-
Indeno(1,2,3-cd)pyrene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	-	0.0018	0.001	-	-
Naphthalene	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	-	-	-	16,000	10,000
Phenanthrene	0.310	0.0120 J	0.0170 J	0.0170 J	0.00580 U	0.00580 U	-	-	-	-	-
Pyrene	0.160	0.0140 J	0.00960 J	0.0100 J	0.00580 U	0.00580 U	-	400	-	-	-
Polychlorinated Biphenyls (PCBs)										•	
Aroclor 1016	0.0430 U	0.0430 U	0.0470 U	0.0450 U	0.0430 U	0.0430 U	-	_	-	_	-
Aroclor 1221	0.0590 U	0.0590 U	0.0640 U	0.0620 U	0.0590 U	0.0590 U	-	-	-	-	-
Aroclor 1232	0.0390 U	0.0390 U	0.0420 U	0.0410 U	0.0390 U	0.0390 U	-	-	-	-	_
Aroclor 1242	0.0390 U	0.0390 U	0.0420 U	0.0410 U	0.0390 U	0.0390 U	-	_	-	-	_
Aroclor 1248	0.0670 U	0.0680 U	0.0730 U	0.0710 U	0.0680 U	0.0670 U	-	_	-	-	_
Aroclor 1254	0.0420 U	0.0420 U	0.0460 U	0.0440 U	0.0420 U	0.0420 U	-	_	-	_	_
Aroclor 1260	0.0370 U	0.0370 U	0.0400 U	0.0390 U	0.0370 U	0.0370 U	-	_	-	-	_
Total PCBs	0.0670 U	0.0680 U	0.0730 U	0.0710 U	0.0680 U	0.0670 U	0.5	0.0000064	-	_	_

Table 12
2015 Groundwater Analytical Results
Crown Cork and Seal
Portland, Oregon

		Sample Resu	Its (ug/L)						Portland Harbor PRG ⁽²⁾	DEQ R	BCs (1)
Site ID	MW-1	MW-2	MW-3	MW-3 DUP	MW-4	MW-5		PH specific fish consumption rate ⁽²⁾	RAO 4	Volatilization to Outdoor Air	Vapor Intrusion into Buildings
Sample Date	4/16/2015	4/16/2015	4/17/2015	4/17/2015	4/16/2015	4/16/2015	MCL ⁽⁴⁾	175 g/day consumption rate	Migration of Contaminated Groundwater	Occupational Worker	Occupational Worker
Volatile Organic Compounds (VOCs)											
1,1,1,2-Tetrachloroethane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	-	-
1,1,1-Trichloroethane (TCA)	1.60	1.90	1.20	1.30	44.0	1.70	200	_	-	_	_
1,1,2,2-Tetrachloroethane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	0.40	-	_	_
1,1,2-Trichloroethane	0.0250 U	0.0870 J	0.0250 U	0.0250 U	0.0690 J	0.0540 J	5.0	1.6		19,000	8,800
1,1-Dichloroethane	1.70	0.830	0.420	0.430	0.890	0.270	-	- 1.0	-	73,000	16,000
1,1-Dichloroethane	2.20	0.990	0.250	0.230	80.0	0.490		_	7	-	340,000
1,1-Dichloropropene	0.0150 U	0.0150 U	0.0150 U	0.0150 U	0.0150 U	0.0150 U		_		_	-
1,2,3-Trichlorobenzene	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U		_		_	
1,2,3-Trichloropropane	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U				_	
1,2,4-Trichlorobenzene	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	70	7		_	-
1,2,4-Trimethylbenzene	0.2000 UJ	0.2000 UJ	0.2000 UJ	0.2000 UJ	0.2000 UJ	0.2000 UJ	-				_
1,2-Dibromo-3-chloropropane	0.2000 U	0.440 U	0.2000 U3 0.440 U	0.440 U	0.2000 U	0.2000 U	<u>-</u>		<u>-</u>	-	_
1,2-Dibromoethane (EDB)	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U		-	-	-	-
1,2-Dibromoetriane (EDB) 1,2-Dichlorobenzene	0.0250 U	0.0250 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	600	130	-	-	-
1,2-Dichloroethane (EDC)	0.0250 U	0.0300 U	0.0250 U	0.0250 U	0.0300 U	0.0250 U	5.0	3.70	-	9,500	2 900
							5.0		-	·	3,800
1,2-Dichloropropane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	5.0	1.50	-	-	-
1,3,5-Trimethylbenzene	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	<u> </u>	-	-	-	-
1,3-Dichlorobenzene	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	-	96	-	-	-
1,3-Dichloropropane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	75.0	- 10.0	-	-	- - 700
1,4-Dichlorobenzene	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	75.0	19.0	-	20,000	5,700
2,2-Dichloropropane	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	-	-	-	-	-
2-Chlorotoluene	0.0700 U	0.0700 U	0.0700 U	0.0700 U	0.0700 U	0.0700 U		-	-	-	-
4-Chlorotoluene	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	-	-	-	-	-
4-Isopropyltoluene	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	-	-	-	-	-
Benzene	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	5.0	5.1	0.4	14,000	2,800
Bromobenzene	0.0350 U	0.0350 U	0.0350 U	0.0350 U	0.0350 U	0.0350 U	-	-	-	-	-
Bromochloromethane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	-	-
Bromodichloromethane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	9,300	5600
Bromoform	0.0800 U	0.0800 U	0.0800 U	0.0800 U	0.0800 U	0.0800 U	-	14.0	-	1,100,000	1,100,000
Bromomethane	0.160 U	0.160 U	0.160 U	0.160 U	0.160 U	0.160 U	-	-	-	170,000	36,000
Carbon Tetrachloride	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0980 J	0.0250 U	5.0	0.16		5,400	790
Chlorobenzene	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	100	160	74	-	-
Chloroethane	0.0750 U	0.0750 U	0.0750 U	0.0750 U	0.0750 U	0.0750 U	-	-	-	-	-
Chloroform	0.260	0.240	0.990	1.00	0.150 J	0.720	-	47.0	-	5,500	1,200
Chloromethane	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	-	-	-	2,100,000	320,000
cis-1,2-Dichloroethene	0.0680 J	0.0630 J	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	0.4	-	-
cis-1,3-Dichloropropene (6)	0.0900 U	0.0900 U	0.0900 U	0.0900 U	0.0900 U	0.0900 U	-	-	-	-	-
Dibromochloromethane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	26,000	23,000
Dibromomethane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	-	-
Dichlorodifluoromethane	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	-	-	-	-	-
Ethylbenzene	0.0300 U	0.0300 U	0.0300 U	0.0300 U	0.0300 U	0.0300 U	700	210	160	41,000	7,400
Hexachlorobutadiene	0.0750 U	0.0750 U	0.0750 U	0.0750 U	0.0750 U	0.0750 U	-	1.8	-	-	-
Isopropylbenzene	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	-	-	-	-	-
m,p-Xylenes	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	10,000 ⁽³⁾	-	10,000 ⁽³⁾	-	-

Table 12 2015 Groundwater Analytical Results Crown Cork and Seal Portland, Oregon

		Sample Res	ults (ug/L)						Portland Harbor PRG ⁽²⁾	DEQ R	BCs (1)
Site ID	MW-1	MW-2	MW-3	MW-3 DUP	MW-4	MW-5		PH specific fish consumption rate ⁽²⁾	RAO 4	Volatilization to Outdoor Air	Vapor Intrusion into Buildings
Sample Date	4/16/2015	4/16/2015	4/17/2015	4/17/2015	4/16/2015	4/16/2015	MCL ⁽⁴⁾	175 g/day consumption rate	Migration of Contaminated Groundwater	Occupational Worker	Occupational Worker
Volatile Organic Compounds (VOCs) co	ontinued										
Methyl tert-butyl ether (MTBE)	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	1,100,000	590,000
Methylene Chloride	0.500 UJ	0.500 UJ	0.500 UJ	0.500 UJ	0.500 UJ	0.500 UJ	-	59.0	-	-	-
Naphthalene	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	-	-	-	16,000	10,000
n-Butylbenzene	0.0800 U	0.0800 U	0.0800 U	0.0800 U	0.0800 U	0.0800 U	-	-	-	-	-
n-Propylbenzene	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	-	-
o-Xylene	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	10,000 ⁽³⁾	-	10,000 ⁽³⁾	-	-
sec-Butylbenzene	0.0700 U	0.0700 U	0.0700 U	0.0700 U	0.0700 U	0.0700 U	-	-	•	•	-
Styrene	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	100	-	-	-	-
tert-Butylbenzene	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	-	-	-	-	-
Tetrachloroethene (PCE)	0.210 J	0.540	0.160 J	0.150 J	0.0700 U	0.0700 U	5.0	0.33	0.20	-	32,000
Toluene	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	1,000	1,500	720	-	-
trans-1,2-Dichloroethene	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	100	1,000	-	1,800,000	350,000
trans-1,3-Dichloropropene	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	-	-
Trichloroethene (TCE)	0.0460 J	0.0640 J	0.0250 U	0.0250 U	0.300	0.0340 J	5.0	3.0	1.4	19,000	3,300
Trichlorofluoromethane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	-	340,000
Vinyl Chloride	0.0130 U	0.0130 U	0.0130 U	0.0130 U	0.0130 U	0.0130 U	2.0	0.240	0.02	6,800	910
Phthalates											
Bis(2-ethylhexyl) phthalate	1.10 U	6.40 J	1.20 U	1.20 U	1.10 U	1.60 J	6.0	0.22	-	-	-
Butyl benzyl phthalate	0.190 U	0.190 U	0.200 U	0.200 U	0.190 U	0.190 U	-	190	-	-	-
Diethyl phthalate	0.0950 U	0.095 U	0.100 U	0.0980 U	0.0960 U	0.0970 U	-	4,400	-	-	-
Dimethyl phthalate	0.0950 U	0.095 U	0.100 U	0.0980 U	0.0960 U	0.0970 U	-	110,000	-	-	-
Di-n-butyl phthalate	0.120 U	0.120 U	0.130 U	0.130 U	0.120 U	0.130 U	-	450	-	-	-
Di-n-octyl phthalate	0.170 U	0.170 U	0.180 U	0.180 U	0.170 U	0.180 U	-	-	-	-	-

Notes:

All units in µg/L

BOLD = Detected above the MDL.

PH = Portland Harbor

PRG = Preliminary Remedial Goal
- = not available or not applicable

DEQ = Oregon Department of Environmental Quality J = The sample result is an estimated concentration.

MDL = method detection limit

RBCs = risk-based concentrations SLV = Screening Level Value

U = The analyte was not detected at or above the MDL. µg/L = micrograms per liter

(1) = DEQ, 2012.Risk-Based Concentrations for Individual Chemicals. Revision: June 7.
(2) = DEQ, 2015. Email from DEQ regarding screening level PRGs from EPA.

(3) = The SLVs listed for xylene compounds are for total xylenes.

(4) = EPA Maximum Contaminant Levels. http://water.epa.gov/drink/contaminants/#List.

= The reported concentration exceeds the lowest screening criterion.

= The reported method detection limit exceeds the lowest screening criterion.

Table 13
2015 Soil Analytical Results
Crown Cork and Seal
Portland, Oregon

		DEQ R	RBCs (1)			EPA RSL ⁽³⁾	DEQ Ho	Spot Conce	entrations (4)				
Site ID_Depth	HDW-3A -16	HDW-3A -9	HDW-3B -12	HDW-3B -18	Ingestion, Inhala Vapors, and [ion of Particles or Permal Contact	Volatilization to Outdoor Air	Vapor Intrusion into Buildings	Background ⁽²⁾ (mg/kg)	Industrial Soil	Ingestion, Inl	nalation of Particle Dermal Conta	es or Vapors, and ct
Sample Date	4/3/2015	4/3/2015	4/3/2015	4/3/2015	Construction Worker	Excavation Worker	Occupational Worker	Occupational Worker	Backg (mg/kg	*RSL provided only where no RBC available	Occupational Worker	Construction Worker	Excavation Worker
Metals ⁽⁵⁾		<u> </u>											
Arsenic	-	2.50	-	-	13	370	-	-	9	-	170	850	24,000
Barium	-	95.0	-	-	60000	-	-	-	790	-	-	600,000	-
Cadmium	-	0.330	-	-	150	4300	-	-	1	-	5,100	1,500	43,000
Chromium	-	11.0	-	-	43(VI)	1,200(VI)	-	-	76	-	550	4,300	120,000
Lead	-	210	-	-	800	800	-	-	79	-	8,000	8,000	8,000
Mercury	-	17.0	-	-	93	2,600	-	-	93	-	3,100	930	26,000
Selenium	-	0.470 J	-	-	-	-	-	-	0.71	5800	-	-	-
Silver	-	0.0550 J	-	-	1500	43000	-	-	0.82	-	51,000	15,000	430,000
Petroleum Hydrocarbons													
Gasoline Range	80.0 J	13,000 J	11.0	2.20 J	9,700	-	69,000	-	-	-	-	-	-
Diesel Range	940 Y	84.0 Y	7.60 J	3.80 U	4,600	-	-	-	-	-	-	-	-
Residual Range	780 Y	150 Y	31.0 J	10.0 J	-	-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons (P	AHs)												
Acenaphthene	-	0.00290 J	-	-	19,000	520,000	-	-	-	-	610,000	190,000	-
Acenaphthylene	-	0.00580 J	-	-	-	-	-	-	-	-	-	-	-
Anthracene	-	0.00160 J	-	-	93,000	-	-	-	-	-	-	930,000	-
Benzo(a)anthracene	-	0.00460 J	-	-	21	590	-	-	-	-	270	2,100	59,000
Benzo(a)pyrene	-	0.00110 U	-	-	2	59	-	-	-	-	27	210	5,900
Benzo(b)fluoranthene	-	0.00480 J	-	-	21	590	-	-	-	-	270	2,100	59,000
Benzo(g,h,i)perylene	-	0.00180 J	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	-	0.00200 J	-	-	210	5,900	-	-	-	-	2,700	21,000	590,000
Chrysene	-	0.0220	-	-	2,100	57,000	-	-	-	-	25,000	210,000	-
Dibenz(a,h)anthracene	-	0.00110 U	-	-	2	59	-	-	-	-	27	210	5,900
Fluoranthene	-	0.0140	-	-	8,900	250,000	-	-	-	-	290,000	89,000	-
Fluorene	-	0.00790	-	-	12,000	340,000	-	-	-	-	410,000	120,000	-
Indeno(1,2,3-cd)pyrene	-	0.00150 J	-	-	21	590	-	-	-	-	270	2,100	59,000
Naphthalene	0.00380 U	1.30	0.00370 U	0.00670 J	580	16,000	99	99	-	-	2,300	7,400	210,000
Phenanthrene	-	0.0440	-	-	-	-	-	-	-	-	-	-	-
Pyrene	-	0.0110 J	-	•	6,700	190,000	-	-	-	-	210,000	67,000	-
Polychlorinated Biphenyls (PCBs)													
Aroclor 1016	-	0.00410 U	-	-	-	-	-	-	-	30	-	-	-
Aroclor 1221	-	0.0100 U	-	-	-	-	-	-	-	1	-	-	-
Aroclor 1232	-	0.00890 U	-	-	-	-	-	-	-	1	-	-	-
Aroclor 1242	-	0.00270 U	-	-	-	-	-	-	-	1	-	-	-
Aroclor 1248	-	0.00380 U	-	-	-	-	-	-	-	1	-	-	-
Aroclor 1254	-	0.00270 U	-	-	-		-	-	-	1	-	-	-
Aroclor 1260	-	0.00380 U	-	-	-	-	-	-	-	1	-	-	-
Total PCBs	-	0.00270 U	-	-	4.40	120.00	-	-	-	-	5.6	44	1,200

Table 13
2015 Soil Analytical Results
Crown Cork and Seal
Portland, Oregon

	Sample Results (mg/kg)					DEQ R	RBCs (1)		(2)	EPA RSL ⁽³⁾	DEQ Hot Spot Concentrations (4)			
Site ID_Depth	HDW-3A -16	HDW-3A -9	HDW-3B -12	HDW-3B -18	Ingestion, Inhala Vapors, and D	tion of Particles or Dermal Contact	Volatilization to Outdoor Air	Vapor Intrusion into Buildings	punc	Industrial Soil	Ingestion, Inh	alation of Particle	es or Vapors, and	
Sample Date	4/3/2015	4/3/2015	4/3/2015	4/3/2015	Construction Worker	Excavation Worker	Occupational Worker	Occupational Worker	Backgr e (mg/kg)	*RSL provided only where no RBC available	Occupational Worker	Construction Worker	Excavation Worker	
Volatile Organic Compounds (VOCs)	4/3/2013	4/3/2013	4/3/2013	4/3/2013	WORKE	VVOIREI	WOIRE	VVOIREI		NDC available	VVOIKEI	VVOIREI	Worker	
	0.00440.11	0.00500 11	0.00400.11	0.00400 11		I	I	Г		T 0		ı		
1,1,1,2-Tetrachloroethane	0.00410 U	0.00500 U	0.00400 U	0.00420 U	420,000	-	-	-	<u>-</u>	9	-	-	<u>-</u>	
1,1,1-Trichloroethane (TCA)	0.00890 J	6.60	0.0160 J	0.00610 U	430,000	-	-	-	<u> </u>	-	-	-	-	
1,1,2,2-Tetrachloroethane	0.00250 U	1.50	0.00240 U	0.00250 U	290	- 0.400	24	-	-	3	550	-	45.000	
1,1,2-Trichloroethane 1,1-Dichloroethane	0.00300 U 0.00450 U	0.00370 U 0.0130 J	0.00300 U 0.00450 U	0.00310 U 0.00460 U	62,000	8,100	24	3	-	-	25,000	530 290,000	15,000	
1,1-Dichloroethene	0.00430 U	0.600	0.00520 U	0.00460 U	12,000	340,000	-	680		-	270,000	120,000		
1,1-Dichloropropene	0.00570 U	0.00700 U	0.00560 U	0.00580 U	-	-	_	-	-	_	-	-		
1,2,3-Trichlorobenzene	0.00340 U	0.00410 U	0.00330 U	0.00340 U	_	_	_	-	_	660	_	_	-	
1,2,3-Trichloropropane	0.0120 U	0.0150 U	0.0120 U	0.0130 U	-	-	-	-	-	0	-	-	-	
1,2,4-Trichlorobenzene	0.00420 U	0.00510 U	0.00420 U	0.00430 U	-	-	-	-	-	110	-	-	-	
1,2,4-Trimethylbenzene	0.290	180	0.0230 J	0.00980 J	2,000	54,000	1,000	1,000	-	-	20,000	20,000	540,000	
1,2-Dibromo-3-chloropropane	0.00280 U	0.00340 U	0.00280 U	0.00280 U	-	-	-	-	-	0	-	-	-	
1,2-Dibromoethane (EDB)	0.00370 U	0.00450 U	0.00360 U	0.00370 U	8	230	1	0	-	-	68	810	23,000	
1,2-Dichlorobenzene	0.0130 U	0.0160 U	0.0130 U	0.0130 J F	19,000	520,000	-	-	-	-	350,000	190,000	-	
1,2-Dichloroethane (EDC)	0.00360 U	0.00430 U	0.00350 U	0.00360 U	180	5,000	15	1 1	-	-	1,500	9,500	260,000	
1,2-Dichloropropane	0.00260 U	0.00320 U	0.00260 U	0.00260 U	-	-	-	-	-	4	-	-	-	
1,3,5-Trimethylbenzene 1,3-Dichlorobenzene	0.110 0.0110 U	59.0 0.0140 U	0.0190 J 0.0110 U	0.00390 J 0.0120 U	3,100	86,000	-	-	-	-	100,000	31,000	860,000	
1,3-Dichloropenzene	0.00600 U	0.0140 U	0.00590 U	0.0120 U	-	-	-	-	-	23,000	-	-	<u> </u>	
1,4-Dichlorobenzene	0.0120 U	0.00720 U	0.00390 U	0.0120 U	1,200	34,000	36	17		23,000	6,300	120,000	<u> </u>	
2,2-Dichloropropane	0.00520 U	0.00630 U	0.00510 U	0.00530 U	-	-	-	-			-	-		
2-Butanone (MEK)	0.0560 UJ	0.0690 UJ	0.0560 UJ	0.0570 UJ	-	-	-	-	-	190,000	-	-	-	
2-Chlorotoluene	0.00370 U	0.00450 U	0.00360 U	0.00370 U	-	-	-	-	-	23,000	_	-	-	
2-Hexanone	0.0390 U	0.0470 U	0.0380 U	0.0390 U	-	-	-	-	-	1,300	-	-	-	
4-Chlorotoluene	0.00320 U	0.00400 U	0.00320 U	0.00330 U	-	-	-	-	-	23,000	-	-	-	
4-Isopropyltoluene	0.00300 U	17.0	0.0180 J	0.00310 U	-	-	-	-	-	-	-	-	-	
4-Methyl-2-pentanone	0.0320 U	0.0390 U	0.0310 U	0.0320 U	-	-	-	-	-	56,000	-	-	-	
Acetone	0.190 UJ	0.870 J	0.190 UJ	0.190 UJ		-	-	-	-	670,000	-	-	-	
Benzene	0.00380 U	0.00460 U	0.00370 U	0.00380 U	340	9,500	50	1	-	-	3,400	11,000	300,000	
Bromobenzene	0.00260 U	0.00320 U	0.00260 U	0.00260 U	-	-	-	-	-	1,800	-	-	-	
Bromochloromethane Bromodichloromethane	0.00500 U 0.00150 U	0.00610 U 0.00180 U	0.00490 U 0.00150 U	0.00500 U 0.00150 U	210	5,800	11	2	<u>-</u>	630	1,500	21,000	580,000	
Bromoform	0.00700 U	0.00180 U	0.00150 U	0.00130 U	2,400	66,000	550	550	<u> </u>	-	24,000	62,000	560,000	
Bromomethane	0.0150 U	0.0000 U	0.0140 U	0.00710 U	330	9,200	700	17		-	7,100	3,300	92,000	
Carbon disulfide	0.00480 U	0.00580 U	0.00470 U	0.00480 U	-	-	-	-	_	3,500	-	-	-	
Carbon Tetrachloride	0.00410 U	0.00500 U	0.00400 U	0.00420 U	280	7,900	65	2	-	-	3,100	12,000	330,000	
Chlorobenzene	0.0110 U	0.0130 U	0.0100 U	0.0110 U	4,300	120,000	-	-	-	-	83,000	43,000	-	
Chloroethane	0.0170 U	0.0210 U	0.0170 U	0.0170 U	-	-	-	-	-	57,000	-	-	-	
Chloroform	0.00450 U	0.00550 U	0.00450 U	0.00460 U	380	11,000	17	0	-	-	2,500	28,000	770,000	
Chloromethane	0.0110 U	0.0130 U	0.0110 U	0.0110 U	25,000	700,000	-	300	-	-	250,000	250,000	-	
cis-1,2-Dichloroethene	0.00530 U	0.00650 U	0.00520 U	0.00540 U	620	17,000	-	-	-	-	20,000	6,200	170,000	
cis-1,3-Dichloropropene	0.00190 U	0.00240 U	0.00190 U	0.00200 U	190	- 5 200	14	9	-	-	-	-	-	
Dibromochloromethane Dibromomethane	0.00300 U 0.0140 U	0.00370 U 0.0170 U	0.00300 U 0.0140 U	0.00310 U 0.0140 U	190	5,300	14	9	-	98	<u>-</u> -	-	-	
Dichlorodifluoromethane	0.00700 U	0.00860 U	0.0140 U	0.0140 U	-	-	-		<u> </u>	370	-	-	-	
Ethylbenzene	0.00700 U	3.70	0.0030 U	0.00710 U	1,600	44,000	160	12	-	-	14,000	160,000	-	
Hexachlorobutadiene	0.0220 U	0.0240 U	0.0190 U	0.0200 U	-	-	-	- 1	-	30	-	-	-	
Isopropylbenzene	0.00280 U	9.80	0.00280 U	0.00280 U	24,000	670,000	-	-	-	-	530,000	240,000	-	
m,p-Xylenes	0.0360 J	84.0	0.00320 U	0.00420 J	19,000 (6)	540,000 (6)	_			2,400	250,000	190,000		
Methyl tert-butyl ether (MTBE)	0.00650 U	0.00790 U	0.00640 U	0.00660 U	10,000	290,000	1,500	74	-	-	100,000	-	-	
Methylene Chloride	0.0120 U	0.0330	0.0120 U	0.0130 U	2,700	75,000	830	20	-	-	31,000	170,000	-	
Naphthalene	0.00380 U	1.30	0.00370 U	0.00670 J	580	16,000	99	99	-	-	2,300	7,400	210,000	
n-Butylbenzene	0.00380 U	21.0	0.00370 U	0.00380 U	-	-	-	-	-	58,000	-	-	-	
n-Propylbenzene	0.00280 U	19.0	0.00280 U	0.00280 U	-	-	-	-	-	22,000	-	400.005	-	
o-Xylene	0.0200 J	33.0	0.00320 U	0.00330 U	19,000 (6)	540,000 (6)	-	-	-	2,800	250,000	190,000	-	
sec-Butylbenzene	0.0350 J	19.0	0.0120 J	0.00310 U	51,000	-	-	-	-	120,000	-	- 510,000	<u> </u>	
Styrene	0.00260 U	0.00320 U	0.00260 U	0.00260 U	51,000			-	-	_		510,000	-	

Table 13 2015 Soil Analytical Results Crown Cork and Seal Portland, Oregon

Sample Results (mg/kg)						DEQ R	RBCs (1)		_	EPA RSL ⁽³⁾	DEQ Hot	Spot Conce	entrations (4)
Site ID_Depth	HDW-3A -16	HDW-3A -9	HDW-3B -12	HDW-3B -18	Ingestion, Inhalation of Particles or Vapors, and Dermal Contact				round ⁽²	Industrial Soil			
Sample Date	4/3/2015	4/3/2015	4/3/2015	4/3/2015	Construction Worker	Excavation Worker	Occupational Worker	Occupational Worker	Backgr (mg/kg)	*RSL provided only where no RBC available	Occupational Worker	Construction Worker	Excavation Worker
Volatile Organic Compounds (VOCs) co	ontinued												
tert-Butylbenzene	0.00340 U	1.50	0.00330 U	0.00340 U	-	-	-	-	-	120,000	-	-	-
Tetrachloroethene (PCE)	0.00590 J	5.30	0.00560 U	0.00580 U	9,100	250,000	-	36	-	-	40,000	16,000	440,000
Toluene	0.00420 J	7.20	0.00280 U	0.00280 J	24,000	680,000	-	-	-	-	770,000	240,000	-
trans-1,2-Dichloroethene	0.00410 U	0.00500 U	0.00400 U	0.00420 U	4,500	130,000	-	200	-	-	92,000	45,000	-
trans-1,3-Dichloropropene	0.00760 U	0.00920 U	0.00750 U	0.00770 U	-	-	-	-	-	-	-	-	-
Trichloroethene (TCE)	0.00340 U	0.0390	0.00330 U	0.00340 U	420	12,000	96	3	-	-	2,700	1,200	34,000
Trichlorofluoromethane	0.00640 U	0.00780 U	0.00630 U	0.00650 U	63,000	-	-	-	-	-	-	630,000	-
Vinyl Chloride	0.00770 UJ	0.00940 UJ	0.00760 UJ	0.00780 UJ	30	830	89	2	-	-	390	3,000	83,000
Phthalates													
Bis(2-ethylhexyl) phthalate	-	22.0 B	-	-	1,200	33,000	-	-		-	15,000	48,000	-
Butyl benzyl phthalate	-	0.310 U	-	-	-	-	-	-	-	1,200	-	-	-
Diethyl phthalate	-	0.290 J	-	-	-	-	-	-	-	660,000	-	-	-
Dimethyl phthalate	-	0.0310 U	-	-	-	-	-	-	-	-	-	-	-
Di-n-butyl phthalate	-	0.310 U	-	-	-	-	-	-	-	82,000	-	-	-
Di-n-octyl phthalate	-	0.0310 U	-	-	-	-	-	-	-	8,200	-	-	-

Notes:

All units in mg/kg

BOLD = Detected above the MDL.

- = not available or not applicable

(VI) = hexavalent chromium species

DEQ = Oregon Department of Environmental Quality

J= The sample result is an estimated concentration.

MDL = method detection limit

mg/kg = milligrams per kilogram

RBCs = risk-based concentrations RSL = Regional Screening Level

SLV = screening level value

U= The analyte was not detected at or above the MDL.

UJ= The analyte was not detected. The reported sample quantification limit is an estimate.

- (1) = DEQ, 2012.Risk-Based Concentrations for Individual Chemicals. Revision: June 7.
- (2) = DEQ, 2013. Regional Default Background Concentrations for Metals in Soil. State of Oregon. March.
- (3) = http://www.epa.gov/reg3hwmd/risk/human/rb-
- (4) = DEQ, 2012. Hot Spot Concentrations. Revision: June 7.
- (5) = Each analyte is compared to the lowest listed SLV available. For metals, if the SLV was lower than the Background Concentration, then the Background was selected as the screening criteria.
- (6) = The RBCs listed on this table for both xylene compounds are RBCs for total xylenes as the DEQ does not distinguish between the two compounds in the RBC table.
- = The reported concentration exceeds the lowest screening criterion.

Table 14 2015 Sediment Analytical Results Crown Cork and Seal Portland, Oregon

	Sa	mple Results (mg/kg					Portland Harb	or PRG ⁽²⁾		
			,	05.20					ව	
Site ID	Rail Spur Sump	OF-3	OF-4	OF-2 Overflow Catch Basin	OF-2 Overflow Catch Basin	DEQ Catch	RAO 5	RAO 6	ckground ⁽³⁾	
One ib	Kali Spui Sullip	UF-5	UF-4	Dasiii	Catch Basin	Basin	INAO 5	KAO 0	<u>r</u> on	Knee-Chart
						Screening	Direct	Biota	ckg	"Knee"
Sample Date	5/5/2015	6/10/2015	6/10/2015	6/10/2015	4/17/2015	Value ⁽¹⁾	Contact/Ingestion	Ingestion	Ba	value (4)
Metals (5)		·								
Arsenic	0.801	14.0	6.50	-	6.70	7.0	-	-	8.8	10
Barium	36.8	130.0	89.0	-	140	-	-	-	790	-
Cadmium	1.85	0.020 ∪	2.10	-	0.320	1.0	5.0	-	0.63	2.0
Chromium	0.130	120.0	45.0	-	18.0	111	-	-	76	125
Lead	2.70	8900.0	490.0	-	18.0	17	128	-	79	200
Mercury	0.0398	1.40	0.08	0.0410	- 4.00	0.070	1.1	-	0.23	0.30
Selenium	1.17	1.00	1.20	-	1.30	2.0	-	-	0.71	-
Silver Petroleum Hydrocarbons	0.108 U	1.90	0.23	-	0.0820 J	5.0	-	-	0.82	0.60
Gasoline Range	3.43 U	15.0	1.4 J	0.54 U	_	_	_	_	_	_
Diesel Range	42.0	1500.0	380.0	0.54 0	49.0	-	-		-	-
Residual Range	93.6	12000.0	2600.0	_	290	_	_	_	_	<u> </u>
Polycyclic Aromatic Hydrocarbons (PAI		120000	2000.0	! !	200					
Acenaphthene	0.0206	0.270	0.20	-	0.0250	0.30	-	-	-	-
Acenaphthylene	0.0120	0.033 J	0.013 J	-	0.00580 J	0.20	-	-	-	-
Anthracene	0.0345	0.980	0.690	-	0.0300	0.845	-	-	-	-
Benzo(a)anthracene	0.217	3.50	1.90	-	0.240	1.05	-	-	-	-
Benzo(a)pyrene	0.280	4.40	2.30 J	-	0.330	1.45	-	-	-	-
Benzo(b)fluoranthene	0.407	7.50	3.30 J	-	0.380	1.45	-	-	-	-
Benzo(g,h,i)perylene	0.238	1.30	0.730 J	-	0.240	0.30	-	-	-	-
Benzo(k)fluoranthene	0.155	2.60	1.30 J	-	0.120	13	-	-	-	-
Chrysene	0.288	5.90	2.50	-	0.280 J	1.29	-	-	-	-
Dibenz(a,h)anthracene	0.0615	0.40	0.210 J	-	0.0570	1.3	-	-	-	-
Fluoranthene	0.345	7.90	4.50	-	0.370	2.23	-	-	-	-
Fluorene	0.00926	0.180	0.150	-	0.0150	0.536	-	-	-	-
Indeno(1,2,3-cd)pyrene	0.291	1.90	0.980 J	-	0.270	0.10	-	-	-	-
Naphthalene	0.0114 U	0.190 B	0.075 J	-	0.0260 J	0.561	-	-	-	-
Phenanthrene	0.111 J	2.60	1.70	-	0.130 J	1.17	-	-	-	-
Pyrene Total PAHs	0.304 2.79	8.00 47.65	3.90 24.45	-	0.340 2.86	1.52	-	-	-	28
Polychlorinated Biphenyls (PCBs)	2.79	47.00	24.45	-	2.80	-	-	-	-	26
Aroclor 1016	0.0116 U	0.2800	0.0480	0.0090 J	-	0.53	_	_		_
Aroclor 1221	0.0127 U	0.0037 U	0.0034 U	0.0037 U		-	_		_	
Aroclor 1232	0.0127 U	0.0037 U	0.0022 U	0.0024 U			_		_	 _
Aroclor 1242	0.0116 U	0.0024 U	0.0021 U	0.0023 U	-	-	-	-	-	-
Aroclor 1248	0.0116 U	0.0017 U	0.0016 U	0.0018 U	-	1.5	-	-	-	-
Aroclor 1254	0.0116 U	0.4300	0.0960	0.0230	-	0.3	-	-	-	-
Aroclor 1260	0.0116 U	0.0014 U	0.0013 U	0.0014 U	-	0.2	-	-	-	-
Total PCBs	0.0116 U	0.71	0.144	0.032	-	0.39	0.064	0.036	-	0.090
Volatile Organic Compounds (VOCs)										
1,1,1,2-Tetrachloroethane	0.0343 U	0.0046 U	0.004 U	-	0.00490 U	-	-	-	-	-
1,1,1-Trichloroethane (TCA)	0.0343 U	0.091	0.0059 U	-	0.00710 U	-	-	-	-	-
1,1,2,2-Tetrachloroethane	0.00858 U	0.0028 U	0.0024 U	-	0.00290 U	-	-	-	-	-
1,1,2-Trichloroethane	0.0103 U	0.0034 U	0.0030 U	-	0.00360 U	-	-	-	-	-
1,1-Dichloroethane	0.0343 U	0.0051 U	0.0045 U	-	0.00540 U	-	-	-	-	-
1,1-Dichloroethene	0.0172 U	0.0330	0.0410	-	0.00630 U	-	-	-	-	-
1,1-Dichloropropene	0.0343 U	0.0064 U	0.0056 U	-	0.00680 U	-	-	-	-	-
1,2,3-Trichlorobenzene	0.0343 U	0.0038 U	0.0420 U	-	0.0150 J	-	-	-	-	-
1,2,3-Trichloropropane	0.0343 U	0.0140 U	0.0120 U	-	0.0150 U	-	-	-	-	-
1,2,4-Trichlorobenzene	0.0343 U	0.0047 U	0.0049 J	-	0.00830 J	9.2	-	-	-	-
1,2,4-Trimethylbenzene	0.0343 U	1.10	0.0092 J	-	0.00310 U	-	-	-	-	-
1,2-Dibromo-3-chloropropane	0.172 U	0.0032 U	0.0028 U	-	0.00330 U	-	-	-	-	-
1,2-Dibromoethane (EDB)	0.0137 U	0.0041 U	0.0036 U	-	0.00430 U	-	-	-	-	-

Table 14 2015 Sediment Analytical Results Crown Cork and Seal Portland, Oregon

	Sar	mple Results (mg/kg))				Portland Harb	or PRG ⁽²⁾		
				OF-2 Overflow Catch	OF-2 Overflow				<u>©</u>	
Site ID	Rail Spur Sump	OF-3	OF-4	Basin	Catch Basin	DEQ Catch	RAO 5	RAO 6	ound (3)	
						Basin		- 1	ckgro	Knee-Chart
Sample Date	5/5/2015	6/10/2015	6/10/2015	6/10/2015	4/17/2015	Screening Value ⁽¹⁾	Direct Contact/Ingestion	Biota Ingestion	Bacl	"Knee" value ⁽⁴⁾
Volatile Organic Compounds (VOCs) co		0, 20, 2020	0, 10, 1010	0,20,2020		74.00	3			70.00
1,2-Dichlorobenzene	0.0343 U	0.014 U	0.013 U	-	0.0150 U	-	-	-	-	-
1,2-Dichloroethane (EDC)	0.0137 U	0.004 U	0.0035 U	-	0.00420 U	-	-	-	-	-
1,2-Dichloropropane	0.0103 U	0.0029 U	0.0025 U	-	0.00310 U	-	-	1	-	-
1,3,5-Trimethylbenzene	0.0343 U	0.6800	0.0150 J	-	0.00370 U	-	-	-	-	-
1,3-Dichlorobenzene	0.0515 U	0.0130 U	0.0110 U	-	0.0130 U	0.30	-	-	-	-
1,3-Dichloropropane	0.0343 U	0.0067 U	0.0058 U	-	0.00700 U	-	-	-	-	-
1,4-Dichlorobenzene	0.0515 U	0.0130 U	0.0110 U	-	0.0140 U	0.30	-	-	-	-
2,2-Dichloropropane	0.0343 U	0.0058 U	0.0051 U	-	0.00610 U	-	-	-	-	-
2-Butanone (MEK)	-	0.0630 UJ	0.0550 UJ	-	0.0670 UJ	-	-	-	-	-
2-Chlorotoluene	0.0343 U	0.0041 U	0.0036 U	-	0.00430 U	-	-	-	-	-
2-Hexanone	-	0.0430 U	0.0380 U	-	0.0450 UJ	-	-	-	-	-
4-Chlorotoluene	0.0343 U	0.0036 U	0.0032 U	-	0.00380 U	-	-	-	-	-
4-Isopropyltoluene	0.0343 U	-	-	-	0.00790 J	-	-	-	-	-
4-Methyl-2-pentanone	-	0.8800	0.0310 U	-	0.0380 UJ	-	-	-	-	-
Acetone	-	0.3200 J	0.9200 J	-	0.220 UJ	-	-	-	-	-
Benzene	0.0137 U	0.0100 J	0.0037 U	-	0.00450 U	-	-	-	-	-
Bromobenzene	0.0343 U	0.0029 U	0.0025 U	-	0.00310 U	-	-	-	-	-
Bromochloromethane	0.0343 U	0.0056 U	0.0049 U	-	0.00590 U	-	-	-	-	-
Bromodichloromethane	0.0343 U	0.0017 U	0.0015 U	-	0.00180 U	-	-	-	-	-
Bromoform	0.0343 U	0.0079 U	0.0069 U	-	0.00830 U	-	-	-	-	-
Bromomethane	0.120 U	0.0160 U	0.0140 U	-	0.0170 U	-	-	-	-	-
Carbon disulfide	-	0.0053 U	0.0047 U	-	0.00560 U	-	-	-	-	-
Carbon Tetrachloride	0.0172 U	0.0046 U	0.0040 U	-	0.00490 U	-	-	-	-	-
Chlorobenzene	0.0343 U	0.0120 U	0.0100 U	-	0.0130 U	-	-	-	-	-
Chloroethane	0.343 U	0.0190 U	0.0170 U	-	0.0200 UJ	-	-	-	-	-
Chloroform	0.0343 U	0.0051 U	0.0045 U	-	0.00540 U	-	-	-	-	-
Chloromethane	0.0858 U	0.0120 U	0.0110 U	-	0.0130 U	-	-	-	-	-
cis-1,2-Dichloroethene	0.0343 U	0.0060 U	0.0052 U	-	0.00630 U	-	-	-	-	-
cis-1,3-Dichloropropene (6)	0.0137 U	0.0022 U	0.0019 U	-	0.00230 U	-	-	-	-	-
Dibromochloromethane	0.0172 U	0.0034 U	0.0030 U	-	0.00360 U	-	-	-	-	-
Dibromomethane	0.0515 U	0.0160 U	0.0140 U	-	0.0170 U	-	-	-	-	-
Dichlorodifluoromethane	0.0343 U	0.0079 U	0.0069 U	-	0.00830 U	-	-	-	-	-
Ethylbenzene	0.0343 U	0.0490	0.0051 J	-	0.00260 U	-	-	-	-	-
Hexachlorobutadiene	0.0686 U	0.0220 U	0.0190 U	-	0.0230 U	0.60	-	-	-	-
Isopropylbenzene	0.0343 U	0.0780	0.0028 U	-	0.00330 U	<u>-</u>	-	-	-	-
m,p-Xylenes	0.0343 U 0.0343 U	0.2600 0.0073 U	0.0180 J 0.0064 U	-	0.00380 U 0.00770 U	<u> </u>	-	-	-	-
Methyl tert-butyl ether (MTBE) Methylene Chloride	0.0343 U 0.0214 U	0.0300 U	0.0064 U	-	0.00770 U	<u> </u>	-	-	-	-
Naphthalene	0.0214 U	0.0300 U	0.0270 U	-	0.0150 J	0.56	-	-	-	-
·	0.0343 U	0.0830	0.0420 U	-	0.0260 J	-	-	-		-
n-Butylbenzene n-Propylbenzene	0.0343 U	0.0590	0.0049 J	-	0.00430 U		-	-	-	-
o-Xylene	0.0343 U	0.0390	0.0190 J	-	0.00330 U	<u> </u>	-	-	-	-
sec-Butylbenzene	0.0343 U	0.0670	0.0030 U	_	0.00360 U	<u>-</u>		-	_	-
Styrene	0.0343 U	0.0074 J	0.0030 J	-	0.00300 U	<u> </u>			_	-
tert-Butylbenzene	0.0343 U	0.0034 J	0.0043 J	-	0.00310 U	<u>-</u>	-	-	-	-
Tetrachloroethene (PCE)	0.0343 U	0.0036 J	0.0043 J	-	0.00400 U	0.50	-	-	-	
Toluene	0.0172 U	0.0490 U	0.0420 U	-	0.00330 U	-	-	-	-	-
trans-1,2-Dichloroethene	0.0343 U	0.0490 U	0.0420 U	-	0.00330 U	<u>-</u>	-	-		- -
trans-1,3-Dichloropropene	0.0343 U	0.0046 U	0.0040 U	-	0.00490 U	-	-	-		-
Trichloroethene (TCE)	0.0343 U	0.0085 U	0.0074 U	-	0.00490 U	2.1		-	-	- -
Trichlorofluoromethane	0.0206 U	0.0038 J	0.0033 U	-	0.00750 U	-	-	-	-	
Vinyl Chloride	0.0343 U	0.0430 3	0.0240 J	-	0.00730 UJ	<u> </u>	- -	-	-	-
viriyi Omonde	0.0137 0	0.0000	0.0073 0	-	0.00310 00				_	

Table 14 2015 Sediment Analytical Results Crown Cork and Seal Portland, Oregon

	Sa	mple Results (mg/kg	1)				Portland Harb	or PRG ⁽²⁾		
Site ID	Rail Spur Sump	OF-3	OF-4	OF-2 Overflow Catch Basin	OF-2 Overflow Catch Basin	DEQ Catch	RAO 5	RAO 6	(E) pund	
Sample Date	5/5/2015	6/10/2015	6/10/2015	6/10/2015	4/17/2015	Basin Screening Value ⁽¹⁾	Direct Contact/Ingestion	Biota Ingestion	Backgro	Knee-Chart "Knee" value ⁽⁴⁾
Phthalates										
Bis(2-ethylhexyl) phthalate	0.682 U	6.00 J	0.76 J	-	0.0650 U	0.33	0.135	-	-	20
Butyl benzyl phthalate	0.227 U	0.970 JB	0.500 U	-	0.0650 U	-	-	-	-	-
Diethyl phthalate	0.227 U	0.160 U	0.150 U	-	0.0190 U	0.60	-	-	-	-
Dimethyl phthalate	0.114 U	0.055 U	0.050 U	-	0.00650 U	-	-	-	-	-
Di-n-butyl phthalate	0.568 U	1.50 J	0.500 U	-	0.0650 U	0.060	-	-	-	-
Di-n-octyl phthalate	0.568 U	0.055 U	0.050 U	-	0.0710 J	-	-	-	-	-

Notes:

All units in mg/kg

BOLD = Detected above the MDL.

- = not available or not applicable
- J= The sample result is an estimated concentration.

MDL = method detection limit

mg/kg = milligrams per kilogram

SLV = screenling level value

U = The analyte was not detected at or above the MDL.

UJ= The analyte was not detected. The reported sample quantification limit is an estimate.

B= Compound was found in both blank and sample.

- (1) = DEQ, 2009. Guidance for Evaluating the Stormwater Pathway at Upland Sites, Appendix D: Stormwater Data Reporting and Screening Table.
- (2) = DEQ, 2015. Email from DEQ regarding screening level PRGs from EPA.
- (3) = DEQ, 2013. Regional Default Background Concentrations for Metals in Soil. State of Oregon. March.
- (4) = Screening values approximate the "knee" in the charts presented in the DEQ Guidance for Evaluating the Stormwater Pathway at Upland Sites, Appendix E. Available at:
- http://www.deq.state.or.us/lq/pubs/docs/cu/stormwater/GuidanceSWAppendixE.pdf. If detected analytes were lower than the "knee", then the "knee" was selected as the screening criteria. (5) = Each analyte is compared to the lowest listed SLV available. For metals, if the detected concentration was lower than the Background

Concentration, then the Background was selected as the screening criteria.

= The reported concentration exceeds the lowest screening criterion. The reported method detection limit exceeds the lowest screening criterion.

Table 15 2015 Indoor Air and Sub-Slab Vapor Analytical Results Crown Cork and Seal Portland, Oregon

				Sample Results				DEQ R	BCs (1)	DEQ Hot-Sr	ot Concentrations (2)		
Sample Type		Indoor Air				Sub-Slat	n Vanor			Indoor Air SLV	Sub-Slab Vapor SLV	Indoor Air SLV	Sub-Slab Vapor SLV
Sample Type		IIIdooi Ali				Jub-Jiai	vapoi			IIIGOOI 7411 OEV	Vapor Intrusion	OLV.	Vapor Intrusion into
Site ID	CDR-8hr	CMR-8hr	Plate Storage-8hr	SSVP-1	SSVP-1	SSVP-2	SSVP-2	SSVP-3	SSVP-3	Inhalation	into Buildings	Inhalation	Buildings
										Occupational	Occupational	Occupational	Occupational
Sample Date	5/5/2015	5/5/2015	5/5/2015	4/17/2015	5/5/2015	4/17/2015	5/5/2015	4/17/2015	5/5/2015	Worker	Worker	Worker	Worker
Volatile Organic Compounds (VOCs)	0/0/2010	3,3,2,0	5,5,2010			,	5,5,25,5						
Freon 12	3.00	2.80	2.80	2.60	2.60	3.600 U	1.900 U	2.30	1.60 U	_	-	-	
1,1,1-Trichloroethane	0.150 U	0.160 U	0.170 U	9.40	12.0	110.000	48.000	120	200	22,000	21.900.000	220,000	
1,1,2,2-Tetrachloroethane	0.180 U	0.200 U	0,220 U	0,210 U	0.200 U	5,100 U	2,600 U	0.250 U	0.430 U	-	-	-	
1,1,2-Trichloroethane	0.150 U	0.160 U	0.170 U	0.170 U	0.160 U	4,000 U	2,100 U	0.200 U	0.340 U	0.77	770	8.8	8,800
1,1-Dichloroethane	0.110 U	0.120 U	0.130 U	0.130 U	0.120 U	5,600	2,600	0.150 U	0.260 U	7.7	7,700	770	770,000
1,1-Dichloroethene	0.0530 U	0.0590 U	0.0630 U	0.0620 U	0.0590 U	3,700	1,500 U	0.0720 U	0.120 U	880	880,000	8,800	8,800,000
1,2,4-Trichlorobenzene	5.00 U	5.50 U	5.90 U	5.80 U	5.50 U	22,000 U	11,000 U	6.70 U	12.0 U	-	-	-	
1,2,4-Trimethylbenzene	0.660 U	0.730 U	0.780 U	3.20	0.820	190,000	230,000	0.890 U	1.60 U	31	31,000	310	310,000
1,2-Dibromoethane (EDB)	1.00 U	1.10 U	1.20 U	1.20 U	1.10 U	5,700 U	2,900 U	1.40 U	2.40 U	0.020	20	2	2,000
1,2-Dichlorobenzene	0.800 U	0.890 U	0.960 U	0.940 U	0.890 U	4,400 U	2,300 U	1.10 U	1.90 U	880	880,000	8,800	8,800,000
1,2-Dichloroethane 1,2-Dichloropropane	0.110 U 0.620 U	0.370 0.680 U	0.130 U 0.730 U	0.130 U 0.720 U	0.120 0.680 U	3,000 U 3,400 U	1,500 U 1,800 U	0.150 U 0.840 U	0.260 U 1.50 U	0.47	470	47	47,000
1,3,5-Trimethylbenzene	0.620 U	0.680 U	0.730 U	1.50	0.880 U	93.000	120.000	0.840 U	1.50 U	-	-	-	-
1.3-Butadiene	0.300 U	0.730 U	0.750 U	0.340 U	0.330 U	1.600 U	840 U	0.400 U	0.700 U	-	-	-	-
1.3-Dichlorobenzene	0.800 U	0.890 U	0.960 U	0.940 U	0.890 U	4.400 U	2,300 U	1.10 U	1.90 U	-	-	-	-
1.4-Dichlorobenzene	0.800 U	0.890 U	0.960 U	0.940 U	0.890 U	4,400 U	2,300 U	1.10 U	1.90 U	1.1	1,100	110	110.000
1,4-Dioxane	0.480 U	0.530 U	0.570 U	0.560 U	0.530 U	11,000 U	5,500 U	0.650 U	1.10 U	-	-	160	-
2,2,4-Trimethylpentane	3.10 U	3.40 U	3.70 U	3.60 U	3.40 U	3,400 U	4,500	4.20 U	7.40 U	-	-	-	
2-Butanone (Methyl Ethyl Ketone)	2.00 U	2.20 U	2.30 U	2.30 U	3.50	8,700 U	5,900	2.70 U	4.60 U	-	-	-	
2-Hexanone	2.70 U	3.00 U	3.20 U	3.20 U	3.00 U	12,000 U	6,200 U	3.70 U	6.50 U	-	-	-	
2-Propanol	1.60 U	1.80 U	2.00 U	1.90 U	1.80 U	7,300 U	3,700 U	2.20 U	3.90 U	-	-	-	
3-Chloropropene	2.10 U	2.30 U	2.50 U	2.40 U	2.30 UJ	9,300 U	4,800 U	2.80 U	4.90 U	-	-	-	
4-Ethyltoluene	0.660 U	0.730 U	0.780 U	2.80	0.790	230,000	270,000	0.890 U	1.60 U 1.30 U	-	-	-	-
4-Methyl-2-pentanone Acetone	0.550 U 2.70 J	0.890 3.80 J	0.840 4.10 J	5.90 24.0 J	5.40 13.0 J	1,200,000 51.000	850,000 45.000	0.740 U 7.60	1.30 U 6.40	-	-	-	-
alpha-Chlorotoluene	0.690 U	0.770 U	0.820 U	0.810 U	0.770 U	3,800 U	2,000 U	0.940 U	1.60 U	-			
Benzene	0.690 U	0.770 U	0.820 U	0.340	0.770 0	2,400 U	1,200 U	0.290 U	0.500 U	1.6	1,600	160	160,000
Bromodichloromethane	0.900 U	0.990 U	1.10 U	1.00 U	0.990 U	5,000 U	2,500 U	1.20 U	2.10 U	0.33	330	33	33,000
Bromoform	1.40 U	1.50 U	1.60 U	1.60 U	1.50 U	7,600 U	3,900 U	1.90 U	3.30 U	11	11.000	1.100	1.100.000
Bromomethane	2.60 U	2.90 U	3.10 U	3.00 U	2.90 U	2,900 U	1,500 U	3.50 U	6.10 U	22	22,000	220	220,000
Carbon Disulfide	2.10 UJ	2.30 U	2.50 UJ	2.40 UJ	2.30 UJ	2,300 U	1,200 U	2.80 U	4.90 U	-	-	-	
Carbon Tetrachloride	0.840 U	0.930 U	1.00 U	0.980 U	0.930 U	4,600 U	2,400 U	1.10 U	2.00 U	2.0	2,000	200	200,000
Chlorobenzene	0.620 U	0.680 U	0.730 U	0.720 U	0.680 U	3,400 U	1,700 U	0.830 U	1.40 U	220	220,000	2,200	2,200,000
Chloroethane	1.80 U	2.00 U	2.10 U	2.00 U	2.00 U	7,800 U	4,000 U	2.40 U	4.20 U	44,000	43,800,000	440,000	-
Chloroform	0.650 U	0.720 U	0.780 U	1.80	0.720 U	3,600 U	1,800 U	0.880 U	1.50 U	0.53	530	53	53,000
Chloromethane cis-1,2-Dichloroethene	1.40 U 0.110 U	1.50 U 0.120 U	1.60 U 0.130 U	1.60 U 0.120 U	2.40 0.120 U	6,100 U 2,900 U	3,100 U 1,500 U	1.90 U 0.140 U	3.30 U 0.250 U	390	390,000	3,900	3,900,000
cis-1,3-Dichloropropene	0.110 U	0.120 U	0.130 U	0.120 U	0.120 U	3,400 U	1,500 U	0.140 U	1.40 U	-	-	-	-
Cumene	0.610 U	0.670 U	0.720 U	0.710 U	0.670 U	18.000	18.000	0.820 U	1.40 U	1.800	1.800.000	-	-
Cyclohexane	0.460 U	0.730 U	0.780 U	0.770 U	0.730 U	2.500 U	1.300 U	2.20	1.10 U	1,000	1,800,000		
Dibromochloromethane	1.10 U	1.30 U	1.40 U	1.30 U	1.30 U	6,300 U	3,200 U	1.50 U	2.70 U	0.45	450	-	-
Ethanol	2.10	2.40	1.90	1.50 UJ	2.10	5,600 U	2,900 U	1.90 J	3.00 U	-	-	-	-
Ethyl Benzene	0.120	0.260	0.140 U	2.10	3.20	45,000	39,000	0.160 U	0.270 U	4.9	4,900	490	490,000
Freon 11	1.30	1.40	1.60	1.40	1.50	4,200 U	2,100 U	1.50	1.80 U	3,100	3,100,000	-	-
Freon 113	1.00 U	1.10 U	1.20 U	1.20 U	1.10 U	5,700 U	2,900 U	1.40	2.40 U	130,000	131,400,000	-	
Freon 114	0.940 U	1.00 U	1.10 U	1.10 U	1.00 U	5,200 U	2,600 U	1.30 U	2.20 U	-	-	-	
Heptane	0.550 U	0.610 U	0.650 U	0.640 U	0.610 U	3,000 U	1,600	0.740 U	1.30 U	-	-	-	-
Hexachlorobutadiene	7.10 U	7.90 U	8.50 U	8.30 U	7.90 U	32,000 U	16,000 U	9.60 U	17.0 U	-	-	-	
Hexane	0.470 U	0.520 U	0.560 U	0.550 U	0.720	2,600 U	1,400	0.640 U	1.10 U	- (3)	- (3)	-	-
m,p-Xylene	0.400	0.790	0.450	10.0	18.0	180,000	160,000	0.530	0.550 U	440 ⁽³⁾	440,000 ⁽³⁾	4,400	4,400,000
Methyl tert-butyl ether	0.480 U	0.530 U	0.570 U	0.560 U	0.530 U	2,700 U	1,400 U	0.650 U	1.10 U	47	47,000	4,700	4,700,000
Methylene Chloride	0.930 U	1.00 U	1.10 U	1.10 U	1.00 UJ	2,600 U	1,300 U	1.20 U	2.20 U	26	26,000	2,600	2,600,000

Table 15 2015 Indoor Air and Sub-Slab Vapor Analytical Results Crown Cork and Seal Portland, Oregon

												1	
				Sample Results						DEQ R	BCs (1)	DEQ Hot-Sp	ot Concentrations (2)
											Sub-Slab Vapor	Indoor Air	
Sample Type		Indoor Air				Sub-Sla	b Vapor			Indoor Air SLV	SLV	SLV	Sub-Slab Vapor SLV
											Vapor Intrusion		Vapor Intrusion into
Site ID	CDR-8hr	CMR-8hr	Plate Storage-8hr	SSVP-1	SSVP-1	SSVP-2	SSVP-2	SSVP-3	SSVP-3	Inhalation	into Buildings	Inhalation	Buildings
										0	0	0	0
Onesta Data		F/F/004F	F/F/004F	4/47/0045	FIFIONAF	4/47/0045	F/F/004F	4/47/0045	F/F/004F	Occupational	Occupational	Occupational	Occupational
Sample Date	5/5/2015	5/5/2015	5/5/2015	4/17/2015	5/5/2015	4/17/2015	5/5/2015	4/17/2015	5/5/2015	Worker	Worker	Worker	Worker
Volatile Organic Compounds (VOCs)													
o-Xylene	0.160	0.300	0.180	3.40	6.30	76,000	73,000	0.200	0.270 U	440 ⁽³⁾	440,000 ⁽³⁾	4,400	4,400,000
Propylbenzene	0.660 U	0.730 U	0.780 U	0.770 U	0.730 U	45,000	49,000	0.890 U	1.60 U	-	-	18,000	18,000,000
Styrene	0.570 U	0.630 U	0.680 U	0.660 U	0.630 U	3,200 U	1,600 U	0.770 U	1.30 U	4,400	4,400,000	44,000	44,000,000
Tetrachloroethene	0.180 U	0.200 U	0.220 U	4.30	5.60	9,200	5,600	160	210	47	47,000	1,800	1,800,000
Tetrahydrofuran	2.00 U	2.20 U	2.30 U	2.30 U	2.20 U	2,200 U	1,100 U	2.70 U	4.60 U	-	-	-	-
Toluene	0.380	1.80	0.330	1.60	1.00	29,000	20,000	0.560	0.410	22,000	21,900,000	220,000	-
trans-1,2-Dichloroethene	0.530 U	0.590 U	0.630 U	0.620 U	0.590 U	2,900 U	1,500 U	0.720 U	1.20 U	260	260,000	2,600	2,600,000
trans-1,3-Dichloropropene	0.610 U	0.670 U	0.720 U	0.710 U	0.670 U	3,400 U	1,700 U	0.820 U	1.40 U	-	-	-	
Trichloroethene	0.140 U	0.160 U	0.170 U	0.170 U	0.160 U	4,000 U	2,000 U	0.190 U	0.340 U	3.0	2,900	88	88,000
Vinyl Chloride	0.0340 U	0.0380 U	0.0410 U	0.0400 U	0.0380 U	1,900 U	970 U	0.0460 U	0.0810 U	2.8	2,800	280	280,000

Notes:

All units in µg/m³ **BOLD** = Detected above the MDL.

J = The sample result is an estimated concentration.

DEQ = Oregon Department of Environmental Quality

MDL = method detection limit

RBCs = risk-based concentrations

RL = Reporting Limit

SLV = screening level value

μg/m3 = micrograms per cubic meter
U = The analyte was not detected at or above the MDL.

UJ= The analyte was not detected. The reported sample quantification limit is an estimate.

(1) = DEQ, 2012.Risk-Based Concentrations for Individual Chemicals. Revision: June 7.

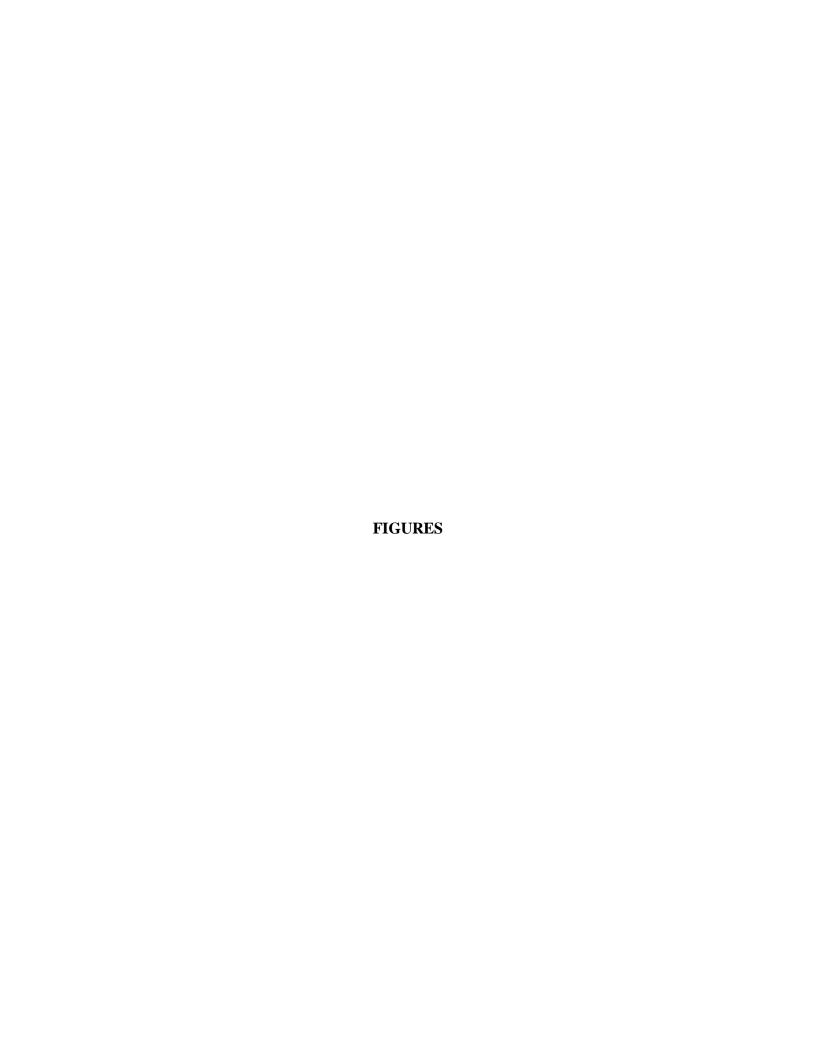
(2) = DEQ, 2012. Hot Spot Concentrations. http://www.deq.state.or.us/lq/pubs/docs/RBDMHotSpotTable.pdf.

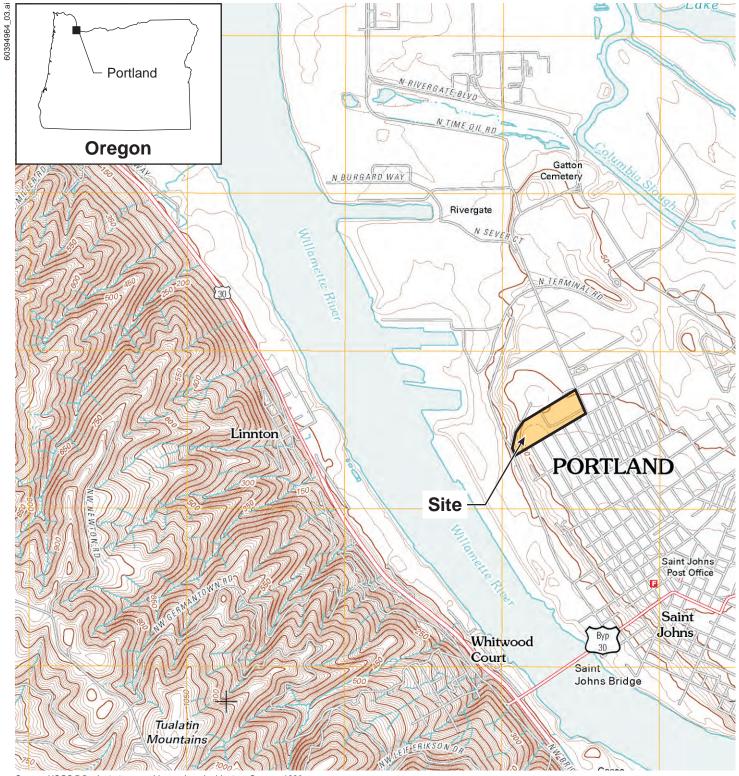
(3) = The RBCs listed on this table for both xylene compounds are RBCs for total xylenes as the DEQ does not distinguish

between the two compounds in the RBC table.

= The reported concentration exceeds the lowest screening criterion.

= The reported method detection limit exceeds the lowest screening criterion.





Source: USGS 7.5-minute topographic quadrangle, Linnton, Oregon, 1990

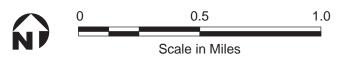
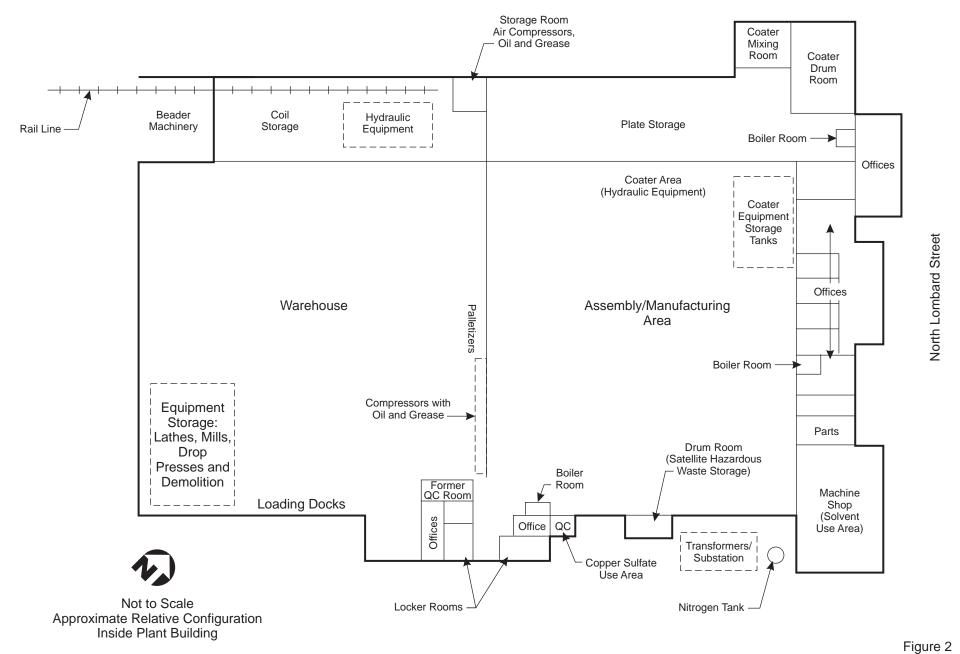


Figure 1 **Site Location**

Job No. 60394964



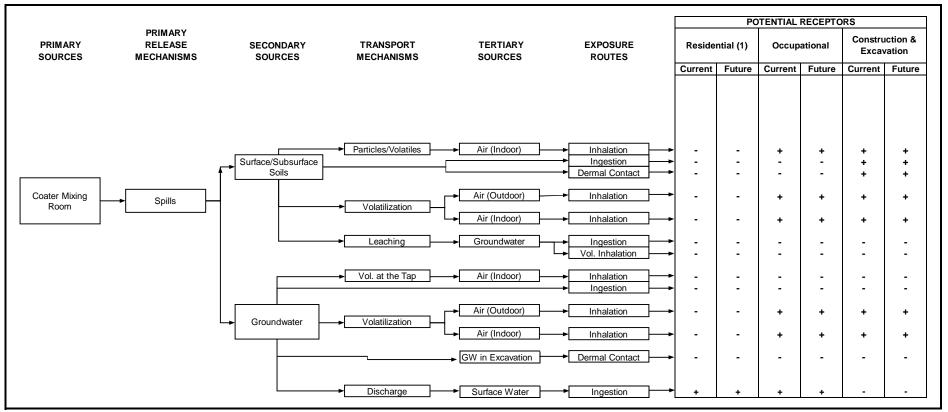
Facility Plan

Job No. 60394964

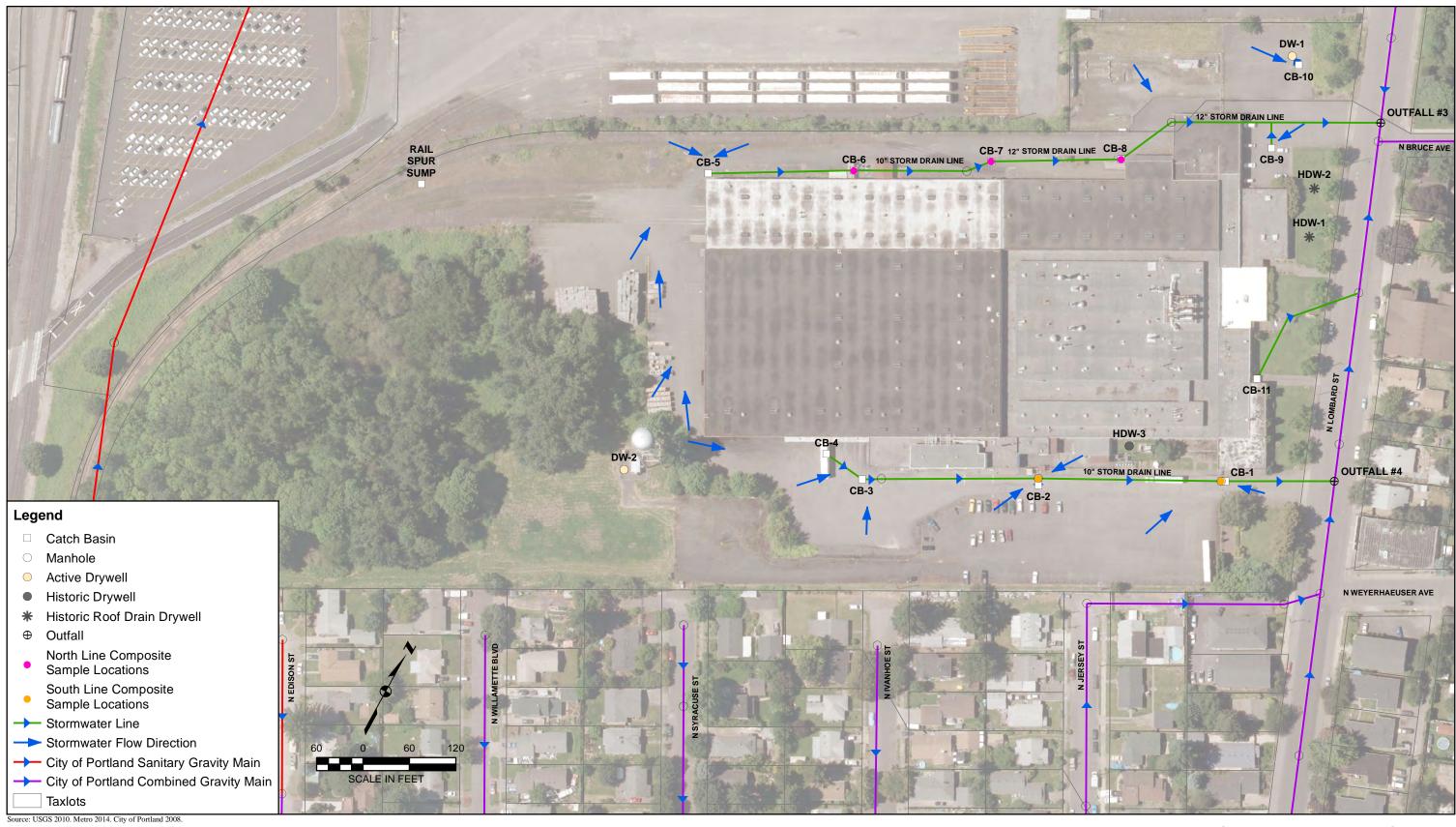


AECOM

FORMER CROWN CORK AND SEAL FACILITY 10200 N LOMBARD ST PORTLAND, OREGON



- + This route is a primary source of exposure.
- There is no exposure by this route.
- (1) Current and future use of the site is assumed to be for commercial or industrial purposes. Therefore, residential pathways are incomplete.





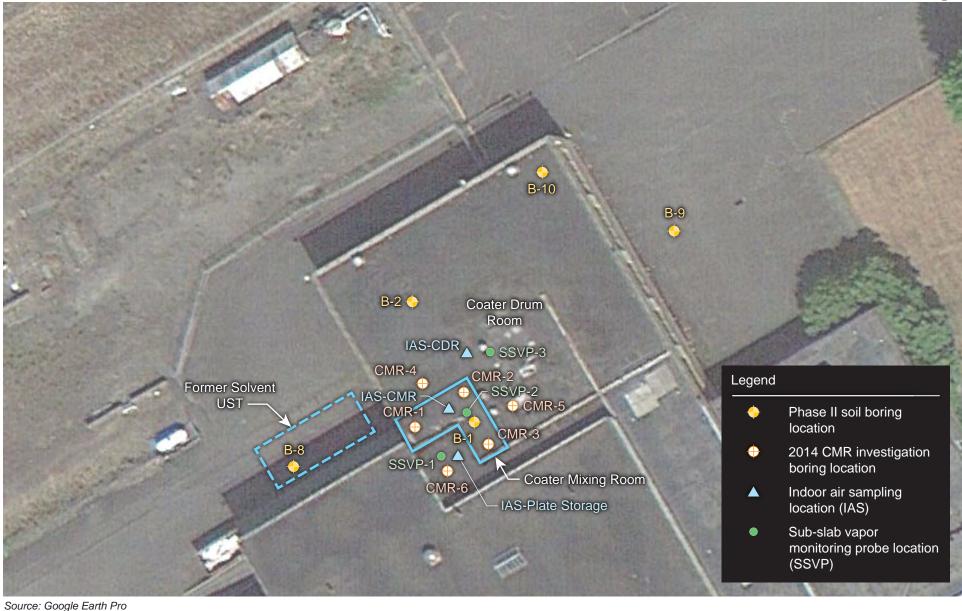
STORMWATER DRAINAGE SITE PLAN

FORMER CROWN CORK AND SEAL FACILITY 10200 N LOMBARD ST PORTLAND, OREGON



DRYWELL HDW-3 BORING LOCATIONS

FORMER CROWN CORK AND SEAL FACILITY 10200 N LOMBARD ST PORTLAND, OREGON



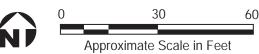


Figure 7 **Sub-Slab Vapor and Indoor Air Quality Monitoring Locations**

Job No. 60394964



AECOM

2000000000

LOCALITY OF FACILITY

N WEYERHAEUSER AVE

FORMER CROWN CORK AND SEAL FACILITY 10200 N LOMBARD ST PORTLAND, OREGON

MW-2

MW-3

Appendix A

Beneficial Water Use Determination

1.0 INTRODUCTION

In a letter dated December 29, 2014, DEQ provided comments based on their review of the site documentation provided by Mecox and other readily available records. The letter included a requirement for a beneficial water use determination in order to evaluate risk screening for the site (DEQ, 2014).

General categories of water use outlined in DEQ's document *Guidance for Conducting Beneficial Water Use Determinations* (BWUDs) *at Environmental Cleanup Sites* (DEQ,1998) are summarized in Table 1.

The site is served by municipal water from the City of Portland (the City). The primary source of the City's potable water is surface water from the Bull Run watershed, located approximately 26 miles east of Portland. The Bull Run watershed collects rainfall over 102-square miles, mostly within Mt. Hood National Forest. The supplemental and emergency City water source is groundwater from the Columbia South Shore Well Field (CSSWF), located several miles northeast of downtown Portland near Gresham, Oregon. A total of 25 wells in the CSSWF draw water from four aquifers over 11 square miles. The site is outside the protected areas for both water supplies.

2.0 SITE INFORMATION

2.1 Hydrogeologic Setting

The site is underlain by fill, followed by native fine-grained flood deposits, characterized by sands and silts, separated by clayers. These are underlain by the Troutdale Formation, consisting of conglomerate with minor interbeds of sandstone, siltstone, and claystone. Below that is the Sandy River Mudstone. The flood deposits, Troutdale Formation, and Sandy River Mudstone comprise the sedimentary alluvium deposited within the Portland Basin, and are underlain by basement rocks consisting of Columbia River Basalts (Madin, Ma, and Niewendorp 2008).

Investigations at the site confirmed that flood deposits beneath the site are primarily comprised of poorly graded, fine- to coarse-grained, sand and well graded gravels, with varying amounts of silt and clay from the surface to a depth of approximately 100 feet bgs. Fine-grained layers do not appear to be laterally continuous beneath the property. However, sandy deposits were consistently encountered below a depth of approximately 85 feet bgs (URS, 2013).

Five groundwater monitoring wells were installed at the site in 2012. Groundwater beneath the site occurs at a depth of approximately 81 to 84 feet bgs in an unconfined aquifer. Groundwater elevation contours generated from site groundwater level data (Figure 1) collected in April 2015, indicate that groundwater flows to the northwest parallel to or towards the Willamette River. The hydraulic gradient across the site is relatively flat (approximately 0.003 feet per foot). The Willamette River is considered a hydraulic barrier to the movement of shallow groundwater.

2.2 Locality of Facility

The Locality of Facility (LOF) is defined in Oregon Cleanup Rules as "any point where a human or an ecological receptor contacts, or is reasonably likely to come into contact with, facility-related hazardous substances" (Oregon Administrative Rules [OAR] 340-122-115 [35]). Factors that should be considered in determining the LOF include the chemical and physical properties of contaminants of interest (COIs) as well as the attributes of the environment in which the release occurred. Additional factors include the propensity for the COIs to move through the environment and accumulate through various food webs.

Site groundwater was sampled and analyzed in 2012, 2013, and 2015. The results were screened against DEQ Risk-Based Concentrations (RBCs) for applicable scenarios (URS 2015a). None of the groundwater analytical results were in exceedance of applicable RBCs, however several detected concentrations were in exceedance of the PH screening criteria (URS, 2015b).

Based on the information provided as part of the site investigations and groundwater monitoring, a LOF was approximated for this site (Figure 2). The limits of the LOF encompass areas where site COIs have been detected in groundwater, soil, and stormwater sediment samples. The LOF shown on Figure 2 is inclusive of all of the above sample locations.

3.0 IDENTIFICATION OF POTENTIAL BENEFICIAL WATER USES

For the purposes of this search, the beneficial uses are limited to drinking water uses. This criteria is governed by facility's conceptual site model, which identifies ingestion as the exposure route to potential receptors (URS, 2015b).

3.1 Well Log Database Search

The Oregon Water Resources Department's (WRD) Well Log Query database (WRD, 2015a) was consulted to determine the uses of groundwater within the site vicinity. The selected study area considered a 1-mile radius of the site, as recommended by DEQ (DEQ, 1998). This study area is shown on Figure 3. The site is located within Township 1 North, Range 1 West Sections 1 and 2. The database was searched for well logs located in these two sections, as well as the following sections:

- Township 2 North, Range 1 West, Section 35
- Township 2 North, Range 1 West, Section 36

Several additional sections are within a 1-mile radius of the site, but were not included in the search area. Township 1 North, Range 1 West, Sections 3 and 10 are located on the west side of the Willamette River. As discussed in Section 2.1, the river is considered to be a hydraulic barrier for shallow groundwater flow; therefore these Sections 3 and 10 were not included in the search area. Similarly, Township 1 North, Range 1 West, Section 11 is largely on the west side of the river, except for a small portion in the northeast corner of the section. This area is considered to be hydraulically upgradient or cross-gradient to the site based on the flow direction

of the Willamette River (north) and the inferred groundwater flow direction at the site (Figure 1). Finally, a small portion of the 1-mile radius falls within Township 1 North, Range 1 East, Section 6. Groundwater in this area is also considered to be upgradient or cross gradient from the site based on the inferred northerly groundwater flow direction.

The well search results from each of the four sections included in the search area are described below. Well logs for potential drinking water wells located within the study area are included in Appendix A. If the address associated with a potential drinking water well is connected to the municipal water supply, it is assumed that the municipal water supply is used for drinking water at that location.

Township 1N Range 1W Section 1

Within Township 1N Range 1W Section 1, there are 363 logged wells. Of these 363 logged wells, 317 are geotechnical wells, 43 are monitoring wells, and 3 are water wells. Of the three wells categorized by the OWRD as water wells, one was not a water supply well (MULT 74945); one (WASH 4622) was located in Section 7 of Township 1N Range 1W (not located within the 1-mile radius); and one was for use as a deep anode (MULT 658).

Township 1N Range 1W Section 2

Within Township 1N Range 1W Section 2, there are 661 logged wells. Of these 661 logged wells, 339 are geotechnical wells, 316 are monitoring wells, and 6 are water wells. Of the 6 water wells, one was abandoned, four had no specified use, and one was installed for domestic use.

The four wells with no specified use (MULT 659, MULT 660, MULT 661, MULT 662) were installed in 1985 and are owned by Toyota Vehicle Processing. The Toyota facility is adjacent to the Mecox site, northwest and downgradient. Water levels for these wells were not recorded on the logs. City of Portland Plumbing Inspection Reports for this property indicates that a connection to municipal water supply was made in 1976. The associated plumbing inspection reports are included in Appendix B. Given the connection to municipal water supply, it appears that potable water for this property is currently supplied by the City of Portland and will likely continue in the future.

The well installed for domestic use, WASH 4592, is located in Hillsboro, Oregon. Hillsboro is approximately 12 miles from the Mecox property, well outside of the search radius.

Township 2N Range 1W Section 35

Within Township 2N Range 1W Section 35, there are 974 logged wells. Of these 974 logged wells, 769 are geotechnical wells, 189 are monitoring wells, and 16 water wells. Of the 16 water wells, five installed were for industrial use; one was installed for industrial/commercial use; two were installed for irrigation use; two were abandoned; one was installed for dust control use; and five were installed for uses described in the OWRD database as domestic and irrigation uses.

The five wells described in the OWRD database as having domestic and irrigation uses are MULT 1826, MULT 1827, MULT 1828, MULT 1832, and MULT 1833. These wells were logged as having the use categories "dom., man., and ind." They are owned by William Shenker and Elizabeth Shenker doing business as (dba) William Shenker Company at 12005 N. Burgard Way. These are wells are located 0.85 miles to the north of the Mecox site. These wells are located in an area that may be hydraulically downgradient from the site.

Except for MULT 1828, which has no given installation date; these wells were installed in 1944. According to the City of Portland, this property has been connected to the municipal water supply since at least 2003 (COP, 2015). Given the connection to municipal water supply, it appears that potable water for this property is currently supplied by the City of Portland and will likely continue in the future.

Township 2N Range 1W Section 36

Within Township 2N Range 1W Section 36, there are 254 logged wells. Of these 254 logged wells, 153 are geotechnical wells; 92 are monitoring wells; and 9 are water wells. Of the 9 water wells, six were installed for piezometric use; one was installed for irrigation use; one was abandoned; and one had no specified use.

The well with no specified use, MULT 98419 is owned by Rivergate Scrap Metals and located at 11920 North Burgard Road, Portland, Oregon. This well is located in an area that may be hydraulically downgradient from the site.

City of Portland Plumbing Inspection Reports for this property indicate a connection to municipal water supply since at least 1998. The associated plumbing inspection report is included in Appendix B. Given the connection to municipal water supply, it appears that potable water for this property is currently supplied by the City of Portland and will likely continue in the future.

3.2 Water Rights Database Search

Two surface water bodies are located within the area located 1mile downgradient of the site: the portion of the Willamette River in Township 1 North, Range 1 West, Section 2, and Township 2 North, Range 1 West, Section 35; and the portion of the Columbia Slough in Township 2 North, Range 1 West, Section 36. The WRD's Water Rights Platcard Search tool (WRD, 2015b) was utilized to search for surface water users with water rights for drinking water in these areas. The search results from both Sections included in the study are described below:

Township 1N Range 1W Section 2

A total of 18 applications, claims, and permits were located in Township 1 N, Range 1W, Section 2. Two applications have expired, one application was withdrawn, and eight permits were for groundwater. The five remaining claims are discussed below.

 Claim SW 390 – The Portland Water Bureau holds a year-round, municipal claim to water from the Bull Run River with a priority date of August 6, 1886. The claim is for the full flow of the Bull Run River or as much as the City of Portland requires. The point of diversion is in Township 1, Range 5 East, Section 26, which is approximately 27 miles east of the site.

- Claim SW 391 The Portland Water Bureau has a year-round municipal claim to water from the Little Sandy River with a priority date of June 17, 1892. The claim is for the full flow of the Little Sandy River or as much as the City of Portland requires. The point of diversion is unspecified, but since it is located on the Little Sandy River, approximately 26 miles to the east, it is not located in this Section.
- Claim SW 392 The Portland Water Bureau has a year-round municipal claim to water from the Willamette River with a priority date of December 31, 1883. This claim is for 28 cubic feet per second. This claim is based on use of Willamette River water by the Portland Water Company, a private company that was later acquired by the Portland Water Bureau. The Portland Water Company owned and operated the Palatine Hill Pump Station, located about one mile upriver from the Sellwood Bridge. The Portland Water Bureau dismantled the Palatine Hill Pump Station in 1921, after the Oregon Legislature exempted municipalities from water right forfeiture for lack of use. The point of diversion for this claim is listed as Township 1 North, Range 1 East, Section 35, approximately 7 miles southeast from the site. Claim LL 1494 BP West Coast Products completed an application for the use of 1,000 gallons per minute from the Willamette River for industrial/manufacturing uses including hydrostatic testing of tanks from September 2013-September 2016. The point of diversion is the BP Portland Terminal (9930 NW St. Helens Rd. Portland, OR), approximately 0.8 miles from the site on the west side of the Willamette River.
- Claim S 51547 The Port of Portland has a year round municipal claim for 21.76 cubic feet per second from the Willamette River. This use is covered under the Port's Non-Potable Water System Plan. The Port's precise use of the water under this claim is not known, except that it is a non-potable use. The point of diversion is the Port of Portland's Terminal 4 facility, which is located adjacent to the west side of the site.
- Claim S 54737 The Tualatin Valley Water District holds this claim with a point of diversion at Scoggins Creek, which is a tributary to the Tualatin River, located approximately 25 miles west of the site.

Township 2N Range 1W Section 36

A total of 17 claims, permits, and certificates were located in Township 2N, Range 1W, Section 36. Two of the claims have expired, and twelve are for groundwater. The three remaining claims are discussed below.

- Claim SW 390 The Portland Water Bureau holds a year-round, municipal claim to water from the Bull Run River with a priority date of August 6, 1886. The claim is for the full flow of the Bull Run River or as much as the City of Portland requires. The point of diversion is in Township 1, Range 5 East, Section 26, which is approximately 27 miles east of the site.
- Claim SW 391 The Portland Water Bureau has a year-round municipal claim to water from
 the Little Sandy River with a priority date of June 17, 1892. The claim is for the full flow of
 the Little Sandy River or as much as the City of Portland requires. The point of diversion is
 unspecified, but since it is located on the Little Sandy River, approximately 26 miles to the
 east, it is not located in this Section.

• Claim SW 392 – The Portland Water Bureau has a year-round municipal claim to water from the Willamette River with a priority date of December 31, 1883. This claim is for 28 cubic feet per second. This claim is based on use of Willamette River water by the Portland Water Company, a private company that was later acquired by the Portland Water Bureau. The Portland Water Company owned and operated the Palatine Hill Pump Station, located about one mile upriver from the Sellwood Bridge. The Portland Water Bureau dismantled the Palatine Hill Pump Station in 1921, after the Oregon Legislature exempted municipalities from water right forfeiture for lack of use. The point of diversion for this claim is listed as Township 1 North, Range 1 East, Section 35, approximately 7 miles southeast from the site.

4.0 BWUD CONCLUSIONS

The OWRD well log database query indicates that a few potential water supply wells are located within a mile of the site, on the east side of the Willamette River. However, each of the properties where these wells are located have a connection to the City of Portland municipal water supply. Therefore, it is considered highly unlikely that these wells are used to supply drinking water. In addition, the WRD's Water Rights Platcard Search Tool (WRD, 2015b) indicates that no surface water rights claims for drinking water downgradient of the site within a mile radius. In addition, since a municipal water supply serves the site and the surrounding area, shallow groundwater in the LOF and surrounding area is not likely to be used as a domestic or municipal water supply in the future.

5.0 REFERENCES

- AECOM, 2015a. Site Investigation Work Plan, Former Crown Cork and Seal Facility, 10200 North Lombard Street, Portland, Oregon. February.
- AECOM, 2015b. Source Control Evaluation/Independent Cleanup Pathway Report, Former Crown Cork and Seal Facility, 10200 North Lombard Street, Portland, Oregon. August.
- City of Portland, 2015. PortlandMaps. City of Portland, Corporate GIS and Bureau of Technology. Accessed February 2015 at http://www.portlandmaps.com/
- DEQ, 1998. Final Guidance for Conducting Beneficial Water Use Determinations at Environmental Cleanup Sites. Oregon Department of Environmental Quality, July.
- DEQ, 2014. Correspondence from Jim Orr to James Flynn conveying DEQ review comments. December 29.
- Madin, I.P, Ma, L., and Niewendorp, C.A, 2008, Preliminary Geologic Map of the Linnton 7.5' Quadrangle, Multnomah and Washington Counties, Oregon. Oregon Department of Geology and Mineral Industries Open-File Report O-08-06.
- URS Corporation, 2013. Groundwater Investigation Report, Former Crown Cork and Seal Facility, 10200 North Lombard Street, Portland, Oregon. February 13.
- URS Corporation, 2015b. Site Investigation Work Plan, Former Crown Cork and Seal Facility, 10200 North Lombard Street, Portland, Oregon. February 20.

URS, 2015a. Source Control Evaluation/Independent Cleanup Pathway Report for the Former Crown Cork and Seal Facility, 10200 North Lombard Street, Portland, Oregon. August.WRD, 2015a. Well Log Query, Oregon Water Resources Department. Accessed February 2015 at:

http://apps.wrd.state.or.us/apps/gw/well_log/Default.aspx.

WRD, 2015b. Water Rights Platcard Search Tool. Accessed July 2015 at:

http://apps.wrd.state.or.us/apps/wr/wrinfo/wr_platcard.aspx.

ATTACHMENTS

Figure 1 – Groundwater Elevation Contour Map

Figure 2 – Locality of Facility

Figure 3 - Water Resources Search Radius

Appendix A – Selected Well Logs from WRD Well Database Search

Appendix B – Applicable City of Portland Plumbing Records

Table 1. General Categories of Water Use 10200 North Lombard Street, Portland, Oregon

General Categories	Definition	Applicability
Drinking Water	Water used for drinking water purposes. May include private, municipal, and industrial drinking water supplies.	Groundwater and surface water
Irrigation	Water used for the irrigation of agricultural land, gardens, or landscaping.	Groundwater and surface water
Livestock	Water used to provide livestock, such as cattle, with drinking water.	Groundwater and surface water
Industry	Water used for industrial purposes including noncontact water, as a solvent or as a raw material including use in food and beverage processing.	Groundwater and surface water
Engineering	Water which is used for non-drinking water purposes that could serve residential, commercial or industrial properties. Includes heat exchange, de-watering, and fire suppression.	Groundwater and surface water
Aquatic Life (Aquatic Habitat)	Water which serves as, or contributes to, the habitat of aquatic organisms such as fish, macroinvertebrates, and benthic organisms. Includes sediment pore water.	Surface water and groundwater discharging to surface water
Recreation	Water which is used for hunting, fishing, swimming, boating, or other recreational activities.	Surface water and groundwater discharging to surface water
Aesthetic Quality	The inherent aesthetic appeal of water. Specific uses include viewing and religious ceremonies.	Surface water and groundwater discharging to surface water

Source: USGS 2010. Metro 2014. City of Portland 2008.

N WEYERHAEUSER AVE

FORMER CROWN CORK AND SEAL FACILITY 10200 N LOMBARD ST PORTLAND, OREGON

N BRUCE AVE

MW-2 (10.29)

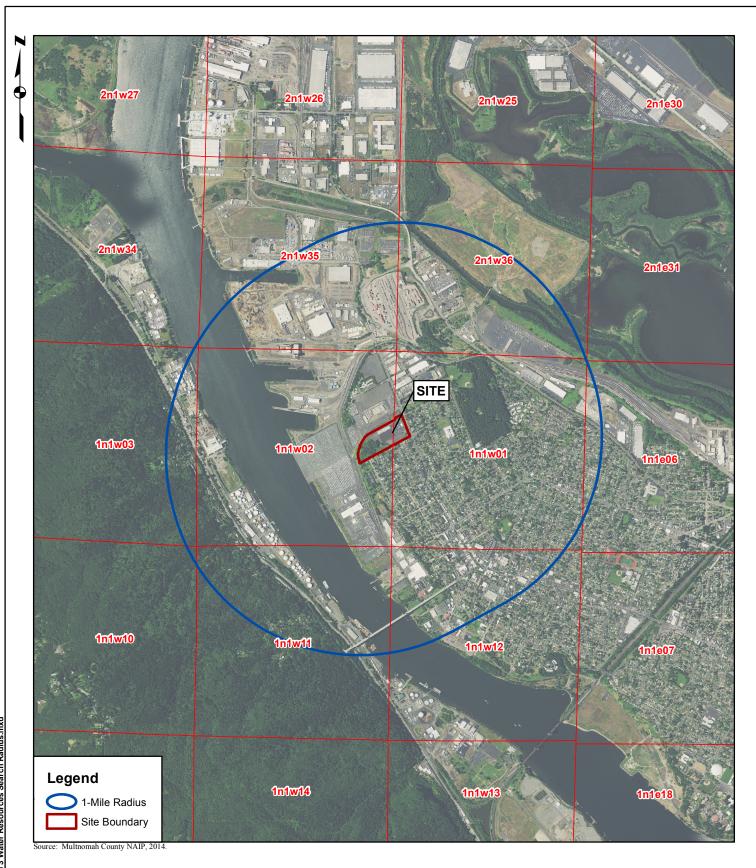




CCS LOCALITY OF FACILITY

FORMER CROWN CORK AND SEAL FACILITY 10200 N LOMBARD ST PORTLAND, OREGON

AECOM





WATER RESOURCES SEARCH RADIUS

AUGUST 2015 33764848 FORMER CROWN CORK AND SEAL FACILITY 10200 N LOMBARD ST PORTLAND, OREGON

Appendix A

Selected Well Logs from WRD Well Database Search

STATE ENGINEER Salem, Oregon

北路

Well Record

STATE WELL NO. 1N/1W-7L(1).
COUNTY Washington
APPLICATION NO.

OWNER: George Dickson			
LOCATION OF WELL: Owner's No	CITY AND STATE:		
NE 14 S.W. 14 Sec. 7 T. S., R. W.,			**********
Bearing and distance from section or subdivision			
corner			
	l		
Altitude at well250			
TYPE OF WELL: Drilled Date Constructed			
Depth drilled 130 ft. Depth cased 100	Se	ection7	
CASING RECORD: 6 inches			<u> </u>
FINISH:			
,			
AQUIFERS: Basalt from 100 feet.			
•			
WATER LEVEL: 20 feet below land surface.			
PUMPING EQUIPMENT: TypeJet		H.P	
Capacity G.P.M.		-	
WELL TESTS: Drawdown ft. after	hours		G.P.M.
Drawdown ft. after			
USE OF WATER Domestic & irrigation		A A MANAGEMENT OF THE STREET O	10
SOURCE OF INFORMATION 25.85			
DRILLER or DIGGERADDITIONAL DATA:			
Log Water Level Measurements	Chemical Analysis	Aquifer Test	
REMARKS: Reported never pumped dry.			

STATE OF OREGON

Name of supervising Geologist/Engineer ___

MULT 98419 MONITORING WELL REPORT (as required by ORS 537.765 & OAR 690-240-095) L 76761 Well ID# Instructions for completing this report are on the last page of this form, Start Card # 1005715 WELL NO. MWP 1-3 (1) OWNER/PROJECT (6) LOCATION OF WELL By legal description: Name Rivergate Scrap Metals County Miltroreh Latitude Longitude ____ Address P.O. Box 83169 Township N (N or S) Range 1W (E or W) Section 36 Portland 97283 SW 1/4 of NW 1/4 of above section. Street address of well location 11920 N. Burgard Rd. (2) TYPE OF WORK Portland, OR Tax lot number of well location 1200 ☐ New construction Alteration (Repair/Recondition) ☐ Conversion ☐ Deepening ☐ Abandonment ATTACH MAP WITH LOCATION IDENTIFIED. Map shall include approximate scale and north arrow. (3) DRILLING METHOD (7) STATIC WATER LEVEL: ☐ Rotary Air Rotary Mud Cable _ Ft. below land surface. Date _____ ☐ Hollow Stem Auger Artesian Pressure _____lb/sq. in. Other_ Date _____ (4) BORE HOLE CONSTRUCTION: (8) WATER BEARING ZONES: Depth at which water was first found ... Special Standards Depth of Completed Well _____ft. From Est. Flow Rate SWL Vault Water-tight cover TO Surface flush vault Locking cap Casing diameter (9) WELL LOG: Ground Elevation ____ Welded Threaded Glued Material SWL From To Installed new monument Seal Liner at grade of new concrete _ ft. diameter slab material Welded Threaded Glued TO Well seal: ft. Material Amount Grout weight Borehole diameter RECEIVED Bentonite plug at least 3 ft. thick FEB 2 4 2009 Filter material 000 pack interval(s): 8D. WATER RESOURCES DEPT From To SALEM, OREGON 900 TO ODDI Slot size _____ in. ft ひゃり Filter pack: 30,0 Completed 2-19-09 Material Date started 2-19-09 Size _____ in. (unbonded) Monitor Well Constructor Certification: I certify that the work I performed on the construction, alteration, or abandon-(5) WELL TESTS: ment of this well is in compliance with Oregon water supply well construction standards Materials used and information reported above are true to the best of my knowledge and belief. Tim Jones ☐ Bailer □Air ☐ Pump ☐ Flowing Artesian _ Yield ___ Permeability _____ _____PH ___ __ Date <u>2-19-09</u> Conductivity____ Temperature of water _____ °F/C Depth artesian flow found ____ (bonded) Monitor Well Constructo Certification: Was water analysis done? ☐ Yes ☐ No Laccept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well Depth of strata to be analyzed. From ______ft. to ______ft. construction standards. This report is true to the best of my knowledge and belief. Remarks: Ron Aspaas

MWC Number 1445

Date 2-19-09

STATE ENGINEER Salem, Oregon MULT Well Record 001833 MAILING	STATE WELL NO. 2N/1W-35 COUNTY Multnomah APPLICATION NO. GR-2698
OWNER: William Shenker & Elizabeth ShenkerADDRESS:	12005 N. Burgard Street
dba William Shenker Company CITY AND LOCATION OF WELL: Owner's No. #4 STATE:	Portland, Oregon
SE 4 Sec. 35 T. 2 N. W., W.M.	
Bearing and distance from section or subdivision	
corner 760 ft. W.: 450 ft. N.	
Altitude at well	
TYPE OF WELL: Drilled Date Constructed 1944.	
Depth drilled90! Depth cased80!	Section
CASING RECORD:	The second secon
12 inch	
FINISH:	
perforated from 70 ft. to 80 ft.	
AQUIFERS:	
WATER LEVEL: 30 feet	
PUMPING EQUIPMENT: TypeFairbanks Morse Capacity1200 G.P.M.	H.P. 30

Drawdown 10 ft. after hours pumping 1000 G.P.M.

Drawdown ft. after hours G.P.M.

USE OF WATER dom., man., and ind. Temp. °F. ,19 SOURCE OF INFORMATION GR-2556

DRILLER or DIGGER Jannsen Drilling Co., Route 1, Aloha, Oregon

WELL TESTS:

ADDITIONAL DATA:

STATE ENGINEER MULT Well	Record	STATE WELL NO	2N/1W-35J
Salem, Oregon	LICCOLA	COUNTY Mu	ltnomah
\ 001832/		APPLICATION N	9. 19K-2 670
OWNER: William Shenker & Elizabeth Shenk		12005 N. Burgard	Street
LOCATION OF WELL: Owner's No. #1		Portland, Oregon	
NE 1/4 SE 1/4 Sec. 35 T. 2 S, R. 1 W	., W.M.	,	
Bearing and distance from section or subdivision			
corner 1060! W, 1690! N.			
	. N - A D - D - D - D - D - D - D - D - D -		
Altitude at well			
TYPE OF WELL: Drilled Date Constructed			
Depth drilled 90! Depth cased 80!		Section	
CASING RECORD:			
12 inch			
		·	
FINISH:			
Perforated from 70 ft. to 80 f	_		
remorated from 70 ft. to 80 ft	J •		
AQUIFERS:			The state of the s
AQUIFERS:		,	
WATER LEVEL:			
30 feet			
PUMPING EQUIPMENT: TypeFairbanks_M	orse	I	H.P. 30
Capacity1200 G.P.M.			
WELL TESTS:	T	numning 1000	
Drawdown10 ft. after			
Drawdown ft. after	. hours		G.P.M.
USE OF WATER dom., man., and ind.	_ Temp	°F.	, 19
SOURCE OF INFORMATION GR-2553			•
DRILLER or DIGGER Jannsen Drill: ADDITIONAL DATA:	ing co nout	oe T, ATOHA, OLEGON	-
Log Water Level Measurements	Chemical An	alysis Aquife	r Test

STATE ENGINEER MULT Well R	ecord	STATE WE		
	ecora	COUNTY .		
Salem, Oregon 001828		APPLICATI	ON NO	GR-2699
OWNER: William Sherker & Elizabeth Shenker		12005 N. Burg	gard St.	
dba William Shenker Company LOCATION OF WELL: Owner's No. #5	CITY AND	Portland, Ore	egon	
	DIALLY			
SE 1/4 SE 1/4 Sec. 35 T. 2 5, R. 1 W., V	v.M.		į	
Bearing and distance from section or subdivision	ļ_			.[
corner 930 ft. W.; 980 ft. N.			1	
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Altitude at well	V	ŀ	j 	1
TYPE OF WELL: Drilled Date Constructed 80'				j
Depth drilled90! Depth cased80!		Section		_
	******	Dectroit		
CASING RECORD:				
12 inch				
TIPATTOTT.				
FINISH:	n t			
perforated from 70 ft. to 80 i	Tt.			
AQUIFERS:				
•				
WATER LEVEL:				
30 ft.				
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PUMPING EQUIPMENT: TypeFairbanks Mon	<u>rse</u>		H.P	30
Capacity1200 G.P.M.				
WELL TESTS:		ning 1000		
Drawdown 10 ft. after				
Drawdown ft. after h	nours			G.P.M.
USE OF WATER dom., man., and ind.	remp. °ਸਾ			19
SOURCE OF INFORMATION				
DRILLER or DIGGERJannsen Drilling	ng Co., Route	1, Aloha, O	regon	***************************************
ADDITIONAL DATA:	~			
Log Water Level Measurements	Chemical Analy	rsis	Aquifer Test	

STATE	ENGINEER
Salen	n, Oregon

State Well No. 2N/1-350	
County Multnomah	
Application No.	

Chemical Analysis

OWNER	OWNER'S NO.	**********************************
ANALYST USGS	Address	*****************************
1/22/12		
Point of Collection	,,	
	P.P.M.	E.P.M.
Silica (SiO ₂)	48.	
Iron (Fe) Total	.10	
Manganese (Mn)		**************************************
Calcium (Ca)	41.	
Magnesium (Mg)	. 4.3	
Sodium (Na)		
Potassium (K)		
Bicarbonate (HCO ₃)	237.	
Carbonate (CO _s)	33-2-1	· · · · · · · · · · · · · · · · · · ·
Sulfate (SO4)	12.	
Chloride (Cl)	5.3	
Fluoride (F)	.1	· · · · · · · · · · · · · · · · · · ·
Nitrate (NO _s)		
Boron (B)		
Dissolved Solids	284.	
Hardness as CaCO ₃	119.	
Specific Conductance (Micromhos at 25°C)		
рН	6.4	
Percent Sodium		
Sodium Absorption Ratio (S.A.R.)		•
CT ASS		

State Printing 89313

STATE ENGINEER MULT Well Record	STATE WELL NO. 2N/1W-35R COUNTY Multnomah APPLICATION NO. GR-2697
OWNER: William Shenker & Elizabeth Shenker ADDRESS:	12005 N. Burgard St.
dba William Shenker Company CITY AND LOCATION OF WELL: Owner's No. #3 STATE:	
	Portland, Oregon
SE 14 SE 14 Sec. 35 T. 2 S. R. 1 W., W.M.	,
Bearing and distance from section or subdivision	
corner 820 ft. W.; 780 ft. N.	
	l
Altitude at well	
TYPE OF WELL: Drilled Date Constructed 1944	
Depth drilled90' Depth cased80'	Section
CASING RECORD:	
12 inch	
FINISH: perforations from 70 ft. to 80 ft.	
AQUIFERS:	
WATER LEVEL: 30 feet	
PUMPING EQUIPMENT: Type Fairbanks Morse Capacity 1200 G.P.M.	н.р. 30
WELL TESTS: Drawdown 10 ft. after hours	pumping 1000 G.P.M
Drawdown ft. after hours	G.P.M.
USE OF WATER dom., man., and ind. Temp. SOURCE OF INFORMATION GR-2555	, , , , , , , , , , , , , , , , , , ,
DRILLER or DIGGER AJannsen Drilling Co., Ro ADDITIONAL DATA:	ute 1, Alona, Oregon
Log Water Level Measurements Chemical An	alvsis Aquifer Test

STATE ENGINEER Salem, Oregon Well Recor	d STATE WELL NO. 2N/1W-35R COUNTY Multhomah GR-2696
001826 MAILI	NG
OWNER: William Shenker & Elizabeth Shenker ADDRI dba William Shenker Company CITY	•
LOCATION OF WELL: Owner's No. #2 STATE	Portland, Oregon
SE 14 SE 14 Sec. 35 T. 2 S., R. 1 W., W.M.	
Bearing and distance from section or subdivision	
corner 1040 ft. W.; 1200 ft. N.	
Altitude at well	
TYPE OF WELL: Drilled Date Constructed 1944	
Depth drilled90! Depth cased80!	Section
CASING RECORD:	
12 inch	
	
•	
FINISH:	
12 inch perforations from 70 ft. to	80 ft.
AQUIFERS:	
WATER LEVEL:	
30 feet	
PUMPING EQUIPMENT: TypeFairbanks_Morse	H.P. 30
Capacity 1200 G.P.M.	
WELL TESTS:	1000
Drawdown10 ft. after hours	- - -
Drawdown ft. after hours	G.P.M.
USE OF WATER dom., man., and ind. Temp.	
SOURCE OF INFORMATION GR-2554 DRILLER or DIGGER January Drilling Co	., Rt. l, Aloha, Oregon
ADDITIONAL DATA:	_
Log Water Level Measurements Chemic	at Analysis

STATE OF OREGON

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WATER WELL REPORT (as required by ORS 537.765) WATER RESOURCES DEPT

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(8) WEI	T. T	EST	S. Mini	mum t	esting ti	me is	1 hour		(unbonde	d) Water	Well C	onstruc	tor Ce	rtificat	ion:		
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			Bailer				∐ Artesian		standards.			d inform	nation 1	eported	above ar	e true to	my best
Yield gal/n	nın	Pump	ing level	J)	ill stem at	:	Time 1/2 hr		knowledge	and bener	•	 -					
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	\Box								(bonded)	Water W	ell Con	structo	r Certi	fication	1:		
				<u> </u>					I acce	ept respon	sibility	for cons	structio	n of this	s well an	d its co	mpliance
Temperature					pth Artesia	an Flow	Found		with all O	regon wat	er well :	standard	ls. This	report	is true t	o the be	st of my
Was a water a									knowledge	and belief	· <u>-</u>				^		0.4
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STATE OF OREGON

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WATER WELL REPORTED DESCRIPCES DEPT	662)	
(as required by ORS 537.785ATER RESOURCES DEPT SALEM, ORSCO.)	PRINT IN INK	(for official use only)
(1) OWNER: Well No. W-3	(10) LOCATION OF WELL by legal of	lescription:
Name Toyota Vehicle Processing	County Multnomah SE 1/4 NE 1/4 of S	-
Address 1040 N. Lombard	1 N D 1 N	1
City Portland, Oregon State 97217	(Township is North or South) (Ra	nge is East or West)
(2) TYPE OF WORK (check):	Tax Lot Subdivision MAILING ADDRESS OF WELL (or nearest address)	
New Well		
If abandonment, describe material and procedure in Item 12.		
(3) TYPE OF WELL: (4) PROPOSED USE (check):	(11) WATER LEVEL of COMPLETE	D WELL:
Rotary Air Driven Domestic Industrial Municipal	Depth at which water was first found not recon	
Rotary Mud 💆 Dug 🔲 Irrigation 🖂 Withdrawal 🖂 Reinjection 🖂	Static level not recorded ft. below lan	id surface. Date
Other:	Artesian pressure lbs. per sq	uare inch. Date
Cable	(12) WELL LOG: Diameter of well below co	asing 811
(5) CASING INSTALLED: Steel Plastic Welded Welded		ompleted well 102 ft
Threaded	Formation: Describe color, texture, grain size and structure of and nature of each stratum and aquifer penetrated, with at least formation. Report each change in position of Static Water	st one entry for each change o
LINER INSTALLED: Steel Plastic	water-bearing strata.	
Threaded Welded		From To SWL
"Diam. fromft. toft. Gauge	Pavement & fill	0 3 57
(6) PERFORATIONS: Perforated? □ Yes ☑ No	Brown sand, occ. silty	3 57
Size of perforations in. by in.	Brown sand & grave1, occ.	57 63
perforations fromft. toft.	Brown sand	63 106
perforations from ft. to ft.	Di Onii Baild	
perforations from		
(7) SCREENS: Well screen installed? N Yes No		
Manufacturer's Name Hydrophilic		
Type PVC Sawcut slots Model No.		
Diam. Slot Size • 020 Set from 82 ft. to 102 ft.		
Diam. Slot Size Set from ft. to ft.		
(8) WELL TESTS: Drawdown is amount water level is lowered below static level		
Was a pump test made? Yes A No If yes, by whom?		
d: gal./min. with ft. drawdown after hrs.		
# #### · · · · · · · · · · · · · · · ·		
Air test gal./min. with drill stem at ft. hrs.		
Bailer test gal./min. with ft. drawdown after hrs.		
Artesian flow g.p.m.		
mperature of water Depth artesian flow encounteredft.	Date work started 5/31/85 /completed	6/5/85
(9) CONSTRUCTION: Special standards: Yes ロ Noを Vell seal—Material used Coment grout plus gel	Date work started 5/31/85 /completed Date well drilling machine moved off of well 6/5/8	
Well sealed from land surface to	(unbonded) Water Well Constructor Certificati	on (if applicable):
Diameter of well bore to bottom of seal	This well was constructed under my direct super	
Diameter of well bore below seal	information reported above are true to my best know	ledge and belief.
Amount of sealing material 8 sacks 30 nounds	[Signed] De	ate 19
How was cement grout placed? Tremmed into dry annular bore	(bonded) Water Well Constructor Certification	
70' to land surface. Bentonite plug 70 -76'	Bond 335-2916 Issued by Great Ame	rican Insurance
The state of the s	On behalf of A. M. Jannsen Well Dri Preston A. Jannsen type or print name of Water	Company Name)
Was pump installed? Type HP Depth ft.	Preston A. Jannsentype or print name of Water	Well Constructor)
Was a drive shoe used? Yes No Plugs	This well was drilled under my jurisdiction and	
Type of Water? depth of strata	best of my knowledge and belief:	. omo report is true to the
Method of sealing strata off	(Signed) Malu Jan	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Was well gravel packed? A Yes 🗆 No Size of gravel. #8 sand	Tine 19 1985	
Gravel placed from	(Dated)	

only)

	KEREIAER	54111	/ /
STATE OF	oregon JUN 2 1.1985	MULIGAI) WIW-
VATER WEI (as required by (SALEM, OREGON	PEPT VPE or PRINT IN INK	(for official use
OWNER:	Well No. W-1	- (10) LOCATION OF	WELL by legal description
1e	Toyota Vehicle Processing	County Multnomah	SE 1/4 NE 1/4 of Section 2

(1) OWNER:	(10) LOCATION OF WELL by legal description:
Name Toyota Vehicle Processing	County Multnomah SE 1/4 NE 1/4 of Section 2 of
Address 1040 N. Lombard	Township 1 N , Range 1 W (Range is East or West) , WM.
City Portland, Oregon State 97217	Tax LotLotBlockSubdivision
(2) TYPE OF WORK (check):	MAILING ADDRESS OF WELL (or nearest address)
New Well	
If abandonment, describe material and procedure in Item 12.	
(3) TYPE OF WELL: (4) PROPOSED USE (check):	(11) WATER LEVEL of COMPLETED WELL:
Rotary Air Driven Domestic Industrial Municipal	Depth at which water was first found not recorded ft.
Rotary Mud 🛣 Dug 🔲 Irrigation 🖂 Withdrawal 🖂 Reinjection 🖂	Static level not recorded ft. below land surface. Date
Other:	Artesian pressure lbs. per square inch. Date
	(12) WELL LOG: Diameter of well below casing 6th
(5) CASING INSTALLED: Steel Plastic Welded	Depth drilled 106 ft. Depth of completed well 105 ft.
Threaded 🖰 Welded 🗆 2 Diam. from 0 ft. to 85 ft. Gauge PVC Sch. 80	Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of
"Diam. from ft. to	formation. Report each change in position of Static Water Level and indicate principal
	water-bearing strata.
LINER INSTALLED: Steel Plastic Threaded Welded	MATERIAL From To SWL
"Diam. fromft. toft. Gauge	Pavement & fill 0 3
(6) PERFORATIONS: Perforated? Yes No	Brown silty clay 3 11
Size of perforations in. by in.	Brown silty sand, occ. silt streaks 11 75
perforations from	streaks 11 75 Brown sand & grave1 75 85
perforations from ft. to ft.	Brown s and, occ. silty 85 107
perforations from ft. to ft.	Grave1 107
(7) SCREENS: Well screen installed? Yes \(\subseteq \) No	
Manufacturer's Name Hydrophilic	
Type PVC Sawcut slot Model No.	
Diam. 2" Slot Size 020 Set from 85 ft. to 105 ft.	
Diam. Slot Size Set from ft. to ft.	
(8) WELL TESTS: Drawdown is amount water level is lowered below static level	
Was a pump test made? Yes No If yes, by whom?	
d: gal./min. with ft. drawdown after hrs.	
Air test gal./min. with drill stem at ft. hrs.	
Bailer test gal./min. with the stem at tr. hrs.	
Artesian flow g.p.m.	
mperature of water Depth artesian flow encountered ft.	
79) CONSTRUCTION: Special standards: Yes \(\subseteq \) No \(\subseteq \)	Date work started 5/23/85 /completed 5/31/85
(9) CONSTRUCTION: Special standards: Yes \(\sigma\) No \(\frac{\mathbb{E}}{2}\) Well seal—Material used	Date well drilling machine moved off of well 5/30/85 19
Well sealed from land surface to	(unbonded) Water Well Constructor Certification (if applicable):
Diameter of well bore to bottom of seal6in.	This well was constructed under my direct supervision. Materials used and
Diameter of well bore below seal	information reported above are true to my best knowledge and belief.
Amount of sealing materialsacks 🕱 pounds 🗆	[Signed]
How was cement grout placed? Tremmed into dry annular bore 74' to ground level. Bentonite plug 74 - 79'	(bonded) Water Well Constructor Certification:
74' to ground level. Bentonite plug 74 - 79'	Bond 335-2916 Issued by Great American Insurance
	(number) (Surety Company Name)
Was pump installed? Type HP Depth ft.	On behalf of A. M. Jannsen Well Drilling Co. Inc. Preston A. Jannsen (type or print name of Water Well Constructor)
Was a drive shoe used?	This well was drilled under my jurisdiction and this report is true to the
Type of Water? depth of strata	best of my knowledge and belief:
Method of sealing strata off Was well gravel packed? ✓ Yes ✓ No Size of gravel: #8 sand	(Signed) (Water Well Constructor)
Gravel placed from	(Dated) June 19, 1985
	1

REGEIVED

Multipo

(for official use only)

STATE OF OREGON	JUN 2 1 1985	(Mr. 660)
WATER WELL REPOI (as required by ORS 537.765)	Ater resources dept Salem, oregan ^{ease}	TYPE or PRINT IN INK
) OWNER:	Well No. W-4	- (10) LOCATION (

(1) OWNER:	(10) LOCATION OF WELL by legal	
Name Toyota Vehicle Processing	County Multnomah SE 4 NE 40	
Address 1040 N. Lombard	Township 1 N , Range 1	W Range is East or West), WM.
City Portland, Oregon State 97217	Tax Lot Lot Block Subdivision	
(2) TYPE OF WORK (check):	MAILING ADDRESS OF WELL (or nearest address)	
New Well Deepening □ Reconditioning □ Abandon □		
If abandonment, describe material and procedure in Item 12.		
(3) TYPE OF WELL: (4) PROPOSED USE (check):	(11) WATER LEVEL of COMPLET	ED WELL:
Rotary Air Driven Domestic Industrial Municipal	Depth at which water was first found not re	corded ft.
Rotary Mud 🗗 Dug 🔲 Irrigation 🗆 Withdrawal 🗆 Reinjection 🗆	Static level not recorded ft. below l	land surface. Date
Other:	Artesian pressure lbs. per	square inch. Date
Cable Bored Piezometric Grounding Test	(12) WELL LOG: Diameter of well below	, casing 8tt
(5) CASING INSTALLED: Steel Plastic	1 ` ′ 400	completed well 102 ft.
4 "Diam. from 0 ft. to 82 ft. Gauge PVC Sch. 80 Gauge Threaded □ Welded □ Gauge PVC Sch. 80 Gauge PVC	Formation: Describe color, texture, grain size and structure of and nature of each stratum and aquifer penetrated, with at leformation. Report each change in position of Static Wat	east one entry for each change of
	water-bearing strata.	
$\begin{array}{c cccc} \textbf{LINER INSTALLED:} & \text{Steel} & \square & \text{Plastic} & \square \\ & \text{Threaded} & \square & \text{Welded} & \square \end{array}$	MATERIAL	From To SWL
ft. Gauge	Pavement & fill	0 3
(6) PERFORATIONS: Perforated? Yes No	Brown silty clay	3 10
Size of perforations in. by in.	Brown silty sand	10 55
perforations from ft. to ft.	Brown sand & gravel, occ.	EE OE
perforations from	cobble Brown sand	55 85 85 85 106
perforations from	brown sand	85 106
(7) SCREENS: Well screen installed? Yes \(\subseteq \) No Manufacturer's Name Hydrophilic		
Type PVC sawcut slots Diam. Slot Size 020 Set from 82 ft. to 102 ft.		
Diam. Slot Size Set from ft. to St. to ft.		
Drawdown is amount water level is lowered		
(8) WELL TESTS: below static level below static level		
Was a pump test made? Yes No If yes, by whom?		
d: gal./min. with ft. drawdown after hrs.		
Air test gal./min. with drill stem at ft. hrs.		
Bailer test gal./min. with ft. drawdown after hrs.		
Artesian flow g.p.m.		
mperature of water Depth artesian flow encountered ft.	Date work started 6/6/85 /complete	C /7 /OF
(9) CONSTRUCTION: Special standards: Yes □ No 🌣	Date work started	
Well seal-Material used Cement grout plus gel	Date well drilling machine moved off of well 6/7/8	00 19
Well sealed from land surface toft.	(unbonded) Water Well Constructor Certifics	
Diameter of well bore to bottom of seal	This well was constructed under my direct superinformation appeared above are true to my best line	
Diameter of well bore below seal	information reported above are true to my best kno	wiedge and Dellei.
Amount of sealing material 10 sacks 10 pounds	[Signed]	Date, 19
How was cement grout placed? Tremmed into dry annular bore	(bonded) Water Well Constructor Certification	~
70' to land surface. Bentonite plug 70 - 76'	Bond 335-2916 Issued by Great Am	erican Insurance
Minimum management and a second a second and	(number) (Sun	ety Company Name)
Was pump installed? Type	On behalf of A. M. Jannsen Well Dr. Preston A. Jannsen type or print name of Wa	
Was a drive shoe used? Yes No Plugs Size: location ft.		
Did any strata contain unusable water?	This well was drilled under my jurisdiction as best of my knowledge and delief:	nd this report is true to the
Type of Water? depth of strata	boss of my anoviens and dener.	
Method of sealing strata off	(Signed) (Water Well Construct	or)
Was well gravel packed? Yes □ No Size of gravel: #8 sand	(Dated) June 19, 1985	v.,
Gravel placed fromft. toft.		***************************************
NOTICE TO WATER WILL CONCERN COMO	THE OTHER DESCRIPTION OF THE PROPERTY OF THE P	a=

RECEIAED

STATE OF OREGON

MULT 659

JUN 2 1 1985

WATER WELL REPORT TER RESOURCES DEPT
(as required by ORS 537.765) ALEM, OREGON TYPE or PRINT IN INK

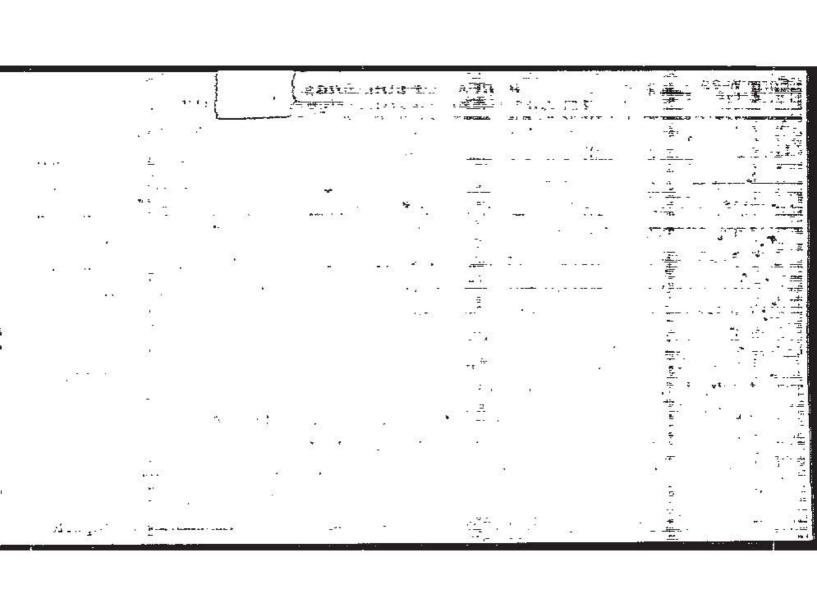
(for official use only)

(1) OWNER:	(10) LOCATION OF WELL by legal of	
Name Toyota Vehicle Processing	County Multnomah SE 1/4 NE 1/4 of S	
Address 1040 N. Lombard	Township 1 N Range 1 (Range Range Ra	mge is East or West) , WM.
City Portland, Oregon State 97217		nge is East or West)
(2) TYPE OF WORK (check):	Tax Lot Lot Block Subdivision MAILING ADDRESS OF WELL (or nearest address)	
New Well ☐ Deepening ☐ Reconditioning ☐ Abandon ☐		
If abandonment, describe material and procedure in Item 12.		
(3) TYPE OF WELL: (4) PROPOSED USE (check):	(11) WATER LEVEL of COMPLETE	D WELL:
Rotary Air Driven Domestic Industrial Municipal	Depth at which water was first found not rec	
Thermal:	1 4 4	nd surface. Date
Other:		uare inch. Date
Cable Bored Piezometric Grounding Test		OH.
CASING INSTALLED: Steel Plastic Threaded Welded Use Welded Delay Diam. from 0 ft. to 82 ft. Gauge PVC Sch. 80	Formation: Describe color, texture, grain size and structure of and nature of each stratum and aquifer penetrated, with at lea	ompleted well 102 ft. materials; and show thickness st one entry for each change of
ft. Gauge	formation. Report each change in position of Static Water water-bearing strata.	Level and indicate principal
LINER INSTALLED: Steel		
Threaded \square Welded \square	Brown silty clay	From To SWL
ft. Gauge ft. Gauge	Pavement and fill	0 3
(6) PERFORATIONS: Perforated? □ Yes ♣ No	Brown silty clay	3 12
Size of perforations in. by in.		12 57
perforations from ft. to ft.	Brown sand & gravel, occ.	
perforations from ft. to ft.		57 63
ft. to ft.		63 80
(7) SCREENS: Well screen installed? ▼ Yes □ No	· · · · · · · · · · · · · · · · · · ·	80 105
Manufacturer's Name Hydrophilic		
Type PVC Sawcut slot Model No.		
Diam. Slot Size • 020 Set from 82 ft. to 102 ft.		
Diam. Slot Size Set from ft, to ft.		
Drawdown is amount water level is lawared		
(8) WELL TESTS: Diameter is alred in water level is lowered below static level		
Was a pump test made?		
d: gal./min. with ft. drawdown after hrs.		
Air test gal./min. with drill stem at ft. hrs.		
Bailer test gal./min. with ft. drawdown after hrs.		
Artesian flow g.p.m.		
mperature of water Depth artesian flow encountered ft.	Date work started 6/10/85 /completed	6/12/85
(9) CONSTRUCTION: Special standards: Yes \(\square\) No \(\frac{\text{Y}}{\text{L}} \)	2/20	
Well seal—Material used Cement grout plus gel		
Well sealed from land surface toft.	(unbonded) Water Well Constructor Certificat	
Diameter of well bore to bottom of seal	This well was constructed under my direct super information reported above are true to my best know	
Diameter of well bore below seaf in.	information reported above are true to my best know	reage and bener.
Amount of sealing material sacks 2 pounds	[Signed] D	ate, 19
How was cement grout placed? Tremmed into dry annular bore 70 to land surface. Bentonite plug 70 - 74!	(bonded) Water Well Constructor Certification Bond 335-2916 Issued by Great Ame:	rican Insurance
70	(number) (Surety	(Company Name)
Was pump installed? Type HP Depth ft.	On behalf of A. M. Jannsen well Dr. Preston A. Jannsen type or print name of Water	r Well Constructor)
Was a drive shoe used?		
Type of Water? depth of strata	This well was drilleft under my jurisdiction and best of my knowledge and belief:	thus report is true to the
Method of sealing strata off	(Signed) that I	
Was well gravel packed? Yes □ No Size of gravel #8 sand	(Water Well Constructor)	<u>, , , , , , , , , , , , , , , , , , , </u>
Gravel placed from	(Dated) June 19, 1985	
	I.	

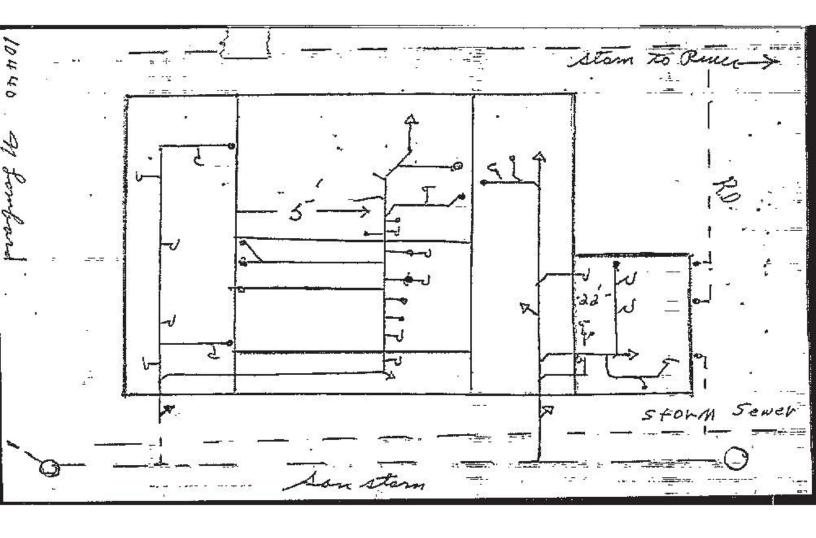
Appendix B

Applicable City of Portland Plumbing Records

orm W-89 (4-74)	REPORT OF PLUMBING INSPECTION Date 8/5/76	
Address	10400 N. Lombard Permit 0201928	
	Blk Add TL (59) Sec. 1, 1S, 1W	
Owner	Port of Portland, Box 3529 97208	2004 12
- Contractor	Copenhagen, Inc. ENUME -	45 F 2
~ Stories and class	s of building new two-story paint blog & car wash	<u> </u>
지원이끌기 : 200일	Hot-Water Tank Cesspool	جا ويا
Bath, Shower_	Auto. Cl. Washer Conn. Cesspool	د مین م
Bath Tub	Auto. Dishwasher Dry Well	- : 4
Basins	Drain Floor Conn. Drywell	
Sinks	Drain Area Conn. Sewer	열
Laundry Trays	Rain Drains Storm Sewer	
Bldg, Pmt, <u>50</u>	0923 Water Ser. 4" 2N Catch-Basins 33N	
Remarks	10N manholes; 5,550_1.f. of sewers	_ 1
	Lee 9" X 1/" white drawy	~ =
Date of First In	spection Date of Final Inspection	··
	Inspector Inspector	



Form W-89 (4-74) BUREAU OF BUILDINGS N Date 7-29-	<u>-76</u>
Address 10400 N. Lombard St. Permit 02017	797_
Lot 59 Bk Sec. 2, TINANCE RIW, Mult. Co., Ore.	·
Owner Port of Portland, Box 3529	,
Owner Port of Portland, Box 3529 Contractor DeTemple Co.	a ger <u>an an ann an air</u> (487)
Stories and class of building 7 Point & Pre-delivery bldg.	
Water Closets Hot-Water Tank IN Cesspool	
Bath, Shower Auto. Cl. Washer Conn. Cesspool	
Bath-Tub Auto. Dishwasher Dry Well	
Basins 5N _ Drain Floor 23N _ Conn. Drywell	
Sinks Ord 2N Drain Area Conn. Sewer 2N	
Laundry Trays Rain DrainsStorm SewerN	
Bldg. Pmt. Water Ser. Catch-Basins	
Remarks Wash sinks 2N: water tanks 6N; Urinals 3N;	
Fountains 3N; P.C. \$23 100 9 11 " Drawn	mine man a such E.
Date of First Inspection 7-6-76 Date of Final Inspection 11-17-7	6
La Mich Inspector Luther to Answ In	



*	PLUMBING	INSPECT	ION REQUE	ST FORM					Report: PLMIN	ISP.REP
Address		N BURGA		ST	_		PERMIT	FED_WORK:		
Plbg Permit No Date Issued Date Updated Permittee Permittee Phone	: 12-AUC : 23-OCT : CHRIST	G-98 C-98 CIAN PLUM	Status Issued Updated BING INC		P AJT GLG	Number of Fixtures: Number of Branches: Solar Units : In-Kind Water Htr :	0 0 0 0	Water Servi Sanitary Se Storm Sewer Rain Drains	wer - Feet: - Feet:	2350 0 0 0
Customer	: BLD98-	-01348					FIXT	TURES:		
Description	: water	service	UR	IAPP	ROVED	Urinals : Wash Basins : Bathtubs :	_ Dishwash _ Garb. Di _ Drink Fo	ners : .sposal: ountain:	Drywells Soak Trench	
Notes	: change	e water f	ootage fr	om 56 t	o 09/02/98 GLG	Showers : Bidets : Water Heaters : Clothes Washers: Laundry Trays :	_ 3-Comp S _ Hand Sir _ Floor Si	Sinks : nks : nks :	Conn. Sewer Conn. Storm	:
Work Location	:					Serv/Mop Sinks : Floor Drains :	_ Hub Drai		Bck Wtr Valve	
Building Use Building Work Building Owner		LC	Sewer Co	nnect:	o :	Remarks :				
	I	ISPECTION	HISTORY:							

Final Inspection: _____ Date: ___

PLUMBING INSPECTION REQUEST FORM	Report: PLMINSP.REP
Address : 11920 N BURGARD ST Plbg Permit No : PLM98-02081 Status : P Date Issued : 23-SEP-98 Issued By : DXR Date Updated : 23-SEP-98 Updated By : DXR Permittee : CHRISTIAN PLUMBING INC Permittee Phone: 771-9449	PERMITTED WORK: Number of Fixtures: 0 Water Service - Feet: 300 Number of Branches: 0 Sanitary Sewer - Feet: 0 Solar Units : 0 Storm Sewer - Feet: 0 In-Kind Water Htr: 0 Rain Drains - Feet: 0
Customer : NW CONTAINER Description : UNAPPROVED	Water Closets : Kitchen Sinks : Area Drains : Urinals : Dishwashers : Catch Basins : Wash Basins : Garb. Disposal: Drywells : Bathtubs : Drink Fountain: Soak Trench : Showers : 2-Comp Sinks : Interceptor :
Notes : : : : : : : : : : : : : : : : : : :	Bidets : 3-Comp Sinks : Sewer Caps : Water Heaters : Hand Sinks : Conn. Sewer : Clothes Washers: Floor Sinks : Conn. Storm : Laundry Trays : Bar Sinks : Rain Drains : Serv/Mop Sinks : Hub Drains : Bck Wtr Valve: Floor Drains : Backflow Prvtr: Reversal :
Building Use : COM Sewer Connect: N Building Work : REP Building Owner : WMR LLC INSPECTION HISTORY:	Remarks :
9-24-98- water servièr 3 < N - 15-20	ENTERED

__ Date: _

Final Inspection: __

	PLUMBING INSPECTION REQUEST FORM	
Address	: 11920 N BURGARD ST	
Plbg Permit No	: PLM98-01768 Status : P	1 5 -1
Date Issued Date Updated Permittee Permittee Phone	: 12-AUG-98 Updated By : AJT : CHRISTIAN PLUMBING INC	Number of Fi Number of Br Solar Units In-Kind Wate
Customer	: BLD98-01348	
Description	: water service	Water Closet Urinals Wash Basins Bathtubs Showers
Notes	UNAPPROVED	Bidets Water Heater Clothes Wash Laundry Tray
Work Location	:	Serv/Mop Sin Floor Drains
Building Use Building Work Building Owner	: NEW	Remarks
	INSPECTION WISTORY:	,
8-14-98 	- PM called for direction pection was cancelled - 45-10 - ON WARR OF - PRINT SHOUDDE	

Final Inspection: _____ Date: _____

ERMITTED	WORK:	

Water Service - Feet:

Report: PLMINSP.REP

56

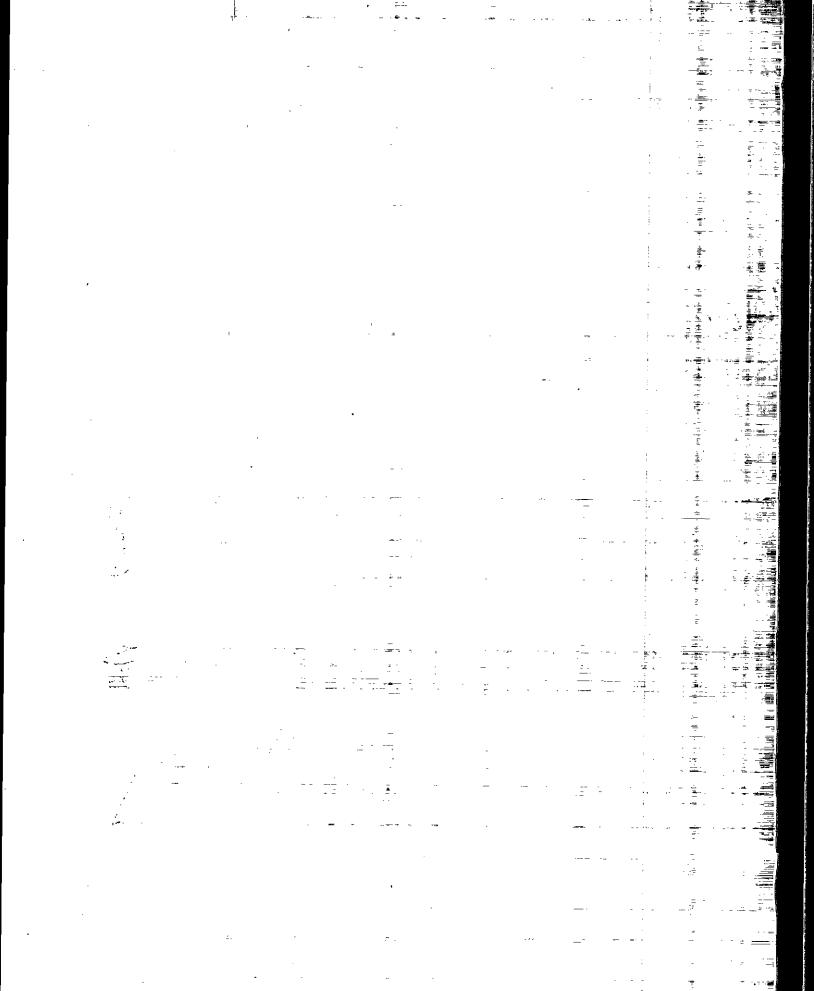
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0

Number of Branc		0		ary Se			0
Solar Units	-	-		n Sewer			0
In-Kind Water H	tr:	0	Rain	Drains	-	Feet:	0
		<u>FIX</u>	TURES:				
Water Closets		Kitchen		:	Area	Drains	:
Urinals		Dishwas				Basins	
Wash Basins	:	Garb. D	isposal	:	Drywe	:11s	:
Bathtubs	:	Drink F	ountain	ı:	Soak	Trench	:
Showers	:	2-Comp	Sinks	:	Inter	ceptor	:
Bidets	:	3-Comp	Sinks	:	Sewer	Caps	:
Water Heaters	:	Hand Sin	nks	:	Conn.	Sewer	;
Clothes Washers	:	Floor S:	inks	:	Conn.	Storm	:
Laundry Trays	:	Bar Sinl	ks	:	Rain	Drains	;
Serv/Mop Sinks	:	Hub Dra:	ins	:	Bck W	tr Valve	:
		Backflor					:
	:			;			:
Remarks	:						
				-			

of Fixtures:

Contract of the Contract of th				,
LOCATION: 10400 N LOMBARD S PERMIT NUMBER: PLM95-01081	ST			
22-JUN-95 CUSTOMER:	USE:COM			•
DESCRIPTION/LOCATION: INSTAL	L DOUBLE CHECK VAI	_VE		
TYPE OF WORK: REP USE: COM	LIVING UNITS:	:000		
APPLICANT: MODERN PLUMBING CO	503 691-616	56		
PERMITED WORK:				. ,
1				•
NO. OF FIXTURES: 1 A NO. OF BRANCHES: 0 REI SOLAR UNITS: 0 MC CONTRACTOR: MOBERN PLUMBI PHONE: 503-691-6166	DDT'L FLOORS: 0 P. WATER HEATER: 0 DBILE HOME SERVICE:		!i	-
Notes	Updated E	Зу		
ACTION Hole	d Date1 Date2 Date	e3 (
APPLICATION RECEIVED F	22-JUN-95	22-JUN-95 KAD		
ا منظم المنظم المنظ المنظم المنظم المنظ	· · · · · · · · · · · · · · · · · · ·	₩ ₩	4 1	FE .
FIXTURES WATER CLOSETSSHOWER	_BATHTUBBASINS	SOTHER		· ·
SINKSDISPOSALLAUNDR) ·		,
FINAL APPROVAL INSPEC	 —	-		
CONNECTION FINAL: INSPE	CTOR· DATE·	Å.		



LOCATION: 10400 N LOMBARD ST PERMIT NUMBER: PLM94-04903	16.
09-MAY-94 CUSTOMER:STORM ON SITE	r * * **
TYPE OF WORK:NEW USE:COM LIVING UNITS:000	i,
APPLICANT: RAIN COUNTRY CONSTRUCTION INC PERMITED WORK: EN TEN	
LENGTH OF STORM: 300 LENGTH OF RAIN DRAIN: 0 LENGTH OF WATER: 0 LENGTH OF SAN SEWER: 0	1
NO. OF FIXTURES: 2 ADDT'L FLOORS: 0 NO. OF BRANCHES: 0 REP. WATER HEATER: 0 SOLAR UNITS: 0 MOBILE HOME SERVICE: 0	
CONTRACTOR: RAIN COUNTRY CONSTRUCTION INC PHONE:503 667-9499	
Notes (-13-98) Updated By ACTION Hold Date1 Date2 Date3	
APPLICATION RECEIVED F 09-MAY-94 09-MAY-94 \$	
FIXTURES WATER CLOSETS SHOWER BATHTUB BASINS OTHER	· ·
SINKS DISPOSAL LAUNDRY TRAY URINALS FLOOR DRAI	s
5-4-94 STORM SEWER AND ONL SEPERATOR - FUELING O 5-4-94 STORM SEWER - CARE WASH MIM * SHORT RAIN ARAIN of STORM FOOTAGE * DANE TO PROVINE ASBULUTS	ADORY MM

Mod. 40105A

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LOCATION: 10400 N LOMB PERMIT NUMBER: PLM94-048	SARD ST B18	
09-MAY-94 CUSTOMER:	ТОУОТА	
TYPE OF WORK:REP USE:C	COM LIVING UNITS:00	00
APPLICANT: DE TEMPLE COMPA	ANY INC	
PERMITED WORK:		
CONTRACTOR: DE TEMPLE PHONE:503 227-2641	ADDT'L FLOORS: 0 REP. WATER HEATER: 0 MOBILE HOME SERVICE: 0 COMPANY INC Updated By	
ACTION	Hold Date1 Date2 Date3	
APPLICATION RECEIVED	F 09-MAY-94	09-MAY-94 KAD
FIXTURES WATER CLOSETS SHOW	ERBATHTUBBASINS_	OTHER
SINKS DISPOSAL LA	UNDRY TRAY URINALS	FLOOR DRAINS
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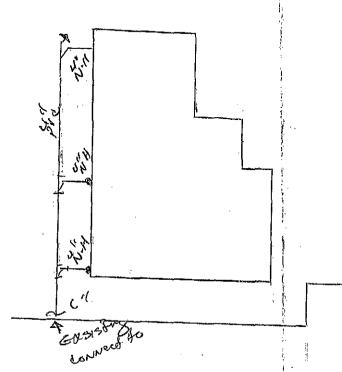
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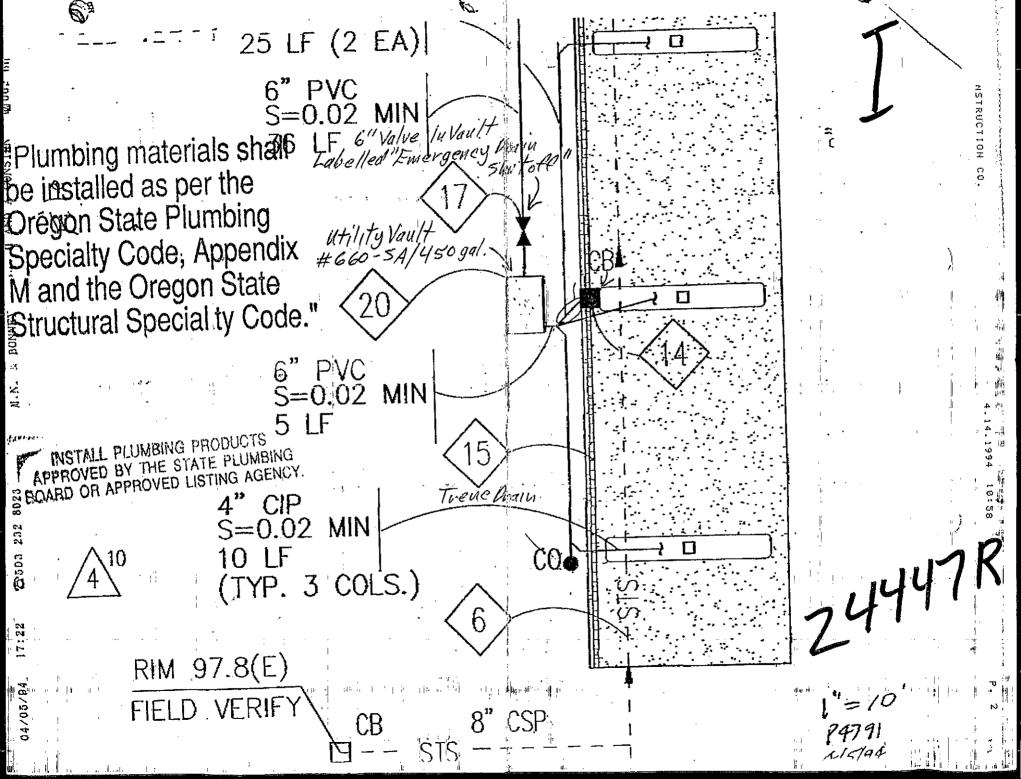
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	LOCATION: 10400 N LOMBARD ST PERMIT NUMBER:PLM94-04371	-	
٠	27-APR-94 CUSTOMER:TOYOTA		- -
	TYPE OF WORK:ADD USE:COM LIVING UNITS:000		
;	APPLICANT: DE TEMPLE COMPANY INC		
	PERMITED WORK:		
Įł.	NO. OF FIXTURES: 8 NO. OF BRANCHES: 0 SOLAR UNITS: 0 ADDT'L FLOORS: 0 REP. WATER HEATER: 0 MOBILE HOME SERVICE: 0		•
	CONTRACTOR: DE TEMPLE COMPANY INC PHONE:503-227-2641		
1	Notes From 10-9 6 11 D Updated By	police and the second	ingenie de la companya de la company
2	ACTION Hold Date1 Date2 Date3		
	APPLICATION RECEIVED F 27-APR-94	27-APR-94 LN	
	FIXTURES WATER CLOSETS 2 SHOWER BATHTUB BASINS 2	OTHER_	· · · · · · · · · · · · · · · · · · ·
	SINKS DISPOSAL MANAGEMENT / URINALS /	FLOOR DRAI	15 <u>2</u>
	5-4-94 PLAIN DRAINS AND CONNECTION OF MI	MEGNON	
•	5-6-94 UNDERCGROUND FOR CARE WASH REST		· •
	* NEED INSPECTION FOR COUR WATE	R MAIN	
. (6-L3-94 COLLECTIONS AT FINAL MINI -Z7-94 MISSER MEI		
4	0-28-94 RESTOOKS OR - ASPOILTS? WILL SEE-PIM-43	-09878	

Ken Kaughen

LOCATION: 10400 N LOMBARD ST PERMIT NUMBER: PLM93-09835 CUSTOMER: CAR PROCESSING 23-NOV-93 LIVING UNITS:000 TYPE OF WORK; REP USE: COM APPLICANT: DE TEMPLE COMPANY INC. PERMITED WORK: LENGTH OF STORM: 100
LENGTH OF WATER: 0
LENGTH OF SAN SEWER: LENGTH OF SAN SEWER: 0 CONTRACTOR: DE TEMPLE COMPANY INC PHONE:503 227-2641 D 6-31094. mA Hold Date1 Date2 Date3 23-NDV-93 LN F 23-NOV-93 APPLICATION RECEIVED





LOCATION: 10400 N LOMBARD ST PERMIT NUMBER: PLM93-09570 17-NOV-93 CUSTOMER: TOYOTA APPLICANT: TYPE OF WORK: REM USE: COM DE TEMPLE COMPANY INC PERMITED WORK: LENGTH OF STORM: + 0: LENGTH OF WATER: 0

LENGTH OF RAIN DRAIN: LENGTH OF SAN SEWER: 120

LIVING UNITS:000

CONTRACTOR: DE TEMPLE COMPANY INC

PHONE:503 227-2641

Notes Updated By

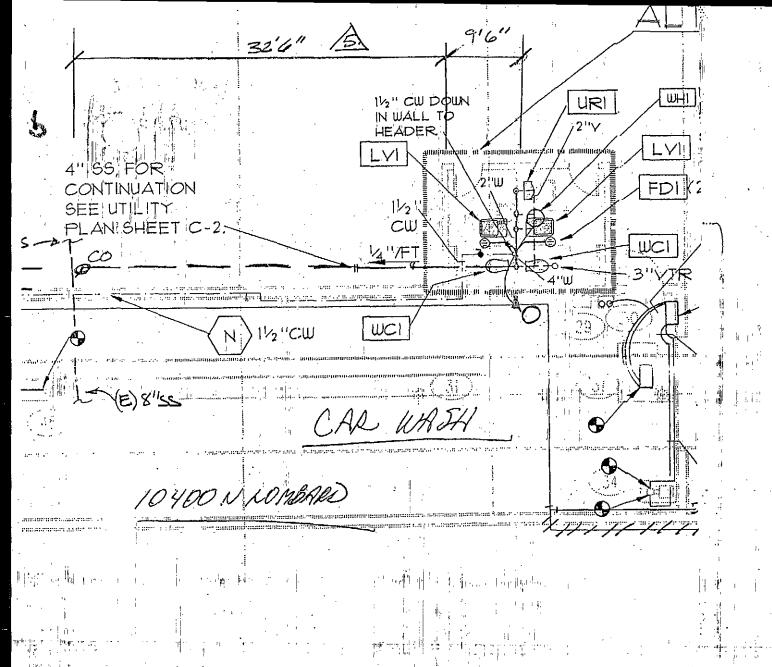
ACTION Hold Date1 Date2

APPLICATION RECEIVED F 17-NOV-93 17-NOV-93 BAB

11-18-93 Saw. Sewer underslab Pan 11-24-93 underslab storm 4 Resoute outside Blog Pan 1-28-94 dispect 4" RD, CD, 4 CLB, oh Quer 12-2-94 dispect 4" RD. +06" Storm 3-DS. 4" 100°C

4-12-94 dospect New 8'CI Son Seven from.
New Blog to existing MH. with 1-6"
Rices for New Batherson.

UNAPPROVED 2-9-9 C MAA



SHEET NOTES

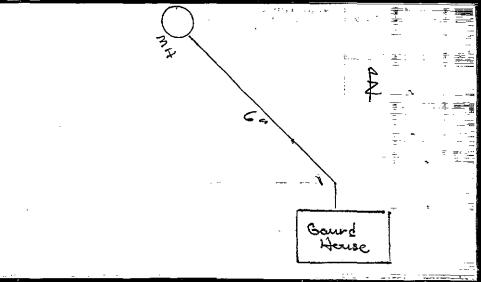
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ROUTE ALL NEW PROCESS PIPING MAINS ALONG WA

REPORT OF PLUMBING INSPECTION Date 1-1-01
Address 10400 N Lombard Permit 111566
Owner Toyota INIADDONIED
Contractor De Temple Co. UNAPPROVED
Stories and Class of Building Car_lot
Water Closets Hot Water Tank Conn. Cesspool
Shower Auto Cl. Washer Seepage Trench
Bathtub Auto Dishwasher Dry Wells to Extra Control of the Contro
Basins Conn. Sewer
Kitchen Sink Conn. Storm
Disposal Fountains Sewer Cap ==
Laundry Tray Floor Drain Catch Basin
Heat Pump Area Drain Heat Exchanger
Water Service Pain Drains Solar Panel Solar Panel
Remarks 2 Fix \$27
Date of Cover Inspection Date of Final Inspection
Inspector Inspector

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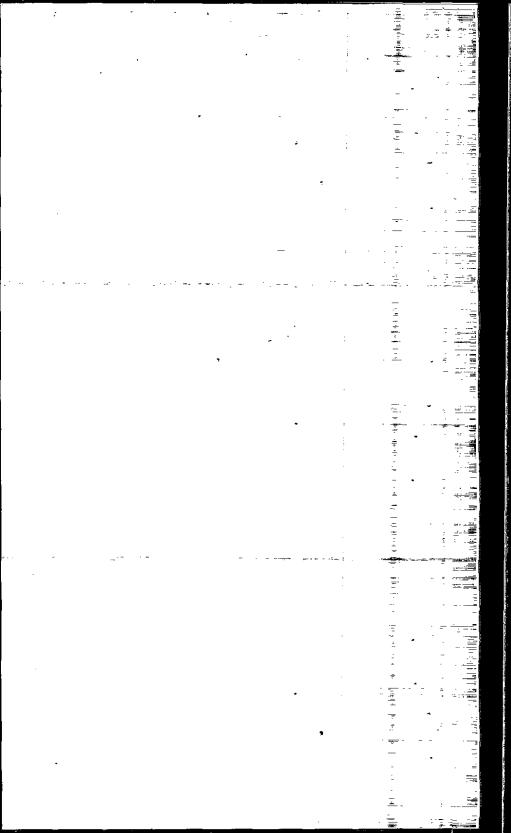
	REPORT OF	EAU OF BUILDINGS PLUMBING INSPECTION	Date 3-27-91_	
Address	<u> 10400 N</u>	Lombard	2/12-2875	
Owner	OTKM To	yota	242-2875	
Contractor	Moore E		the second secon	· E
Stories and C	lass of Building _	Commerciăl	and the second s	
Water Closets	·	Hot Water Tank	Coпп. Cesspool	<u> </u>
Shower		Auto Cl. Washer	Seepage Trench	
Bathtub		Au Dishwasher	Dry Wells	
Basins	<u></u>	ervice Sinks	Conn. Sewer	
Kitchen Sink _		Urinals	Conn. Sewer 95 \$ \$ 3 6	-:
Disposal			Sewer Cap	
Laundry Tray		Floor Drain	Catch Basin	
Heat Pump _		Area Draini	Heat Exchanger	:- r- -
Water Service		Rain Drains	Solar Panel	_:
Remarks		<u></u>	and the second s	7 - 4
Date of Cover	Inspection	Date of F	Final Inspection 3 4-1-01	
		Inspector	M_HSInspector	



	REPORT OF	PLUMBING INSP	ECTIC	N	Date	3-25-91	
Address	T0400 N	Lombard		<u> </u>	Permit _	111400	
		Inc					-
Contractor	Markman	Inc	·			IO A FF	2
Stories and C	lass of Building	Vehicle In	spēc	tion	Center /	2-17-42	_
Water Closets		Hot Water Tank	- (2	_	Conn. Cesspoo	Male	2
		Auto CI. Washer					
Bathtub		Auto Dishwasher			_Dry Wells		_
Basins		Service Sinks			Conn, Sewer _		_
		Urinals					
Disposal		Fountains			Sewer Cap		
Laundry Tray		Floor Drain			_Catch Basin		_
Heat Pump _		Area Drain			_ Heat Exchange	r	
Water Service	·	Rain Drains			Solar Panel		_
Remarks	<u> 2 Fix \$2</u>	27					_
Date of Cover	inspection		Date o	of Final In	spection		
		Inspector	·			Inspec	tor



RE	BUREAU OF BUILDINGS PORT OF PLUMBING INSPECTIO	N Date 2/21/89
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	ota Motor Sales	
	erstate Mech	
Stories and Class	Paint C	enter
	Hot Water Tank	Conn Cessonol
		Seepage Trench
Bathtub		Dry Wells
Basins	•	Conn. Sewer
Kitchen Sink	Urinals	Conn. Storm
Disposal	Fountains2	Sewer Cap
Laundry Tray	Floor Drain	Catch Basin
Heat Pump	Area Drain	Heat Exchanger
Water Service	Rain Drains	Solar Panel
	ix. \$36.	/ -
Date of Cover Inspe	ection 1/ 12-8-9 Date o	f Final Inspection 3 7/7/
	inspector	Inspector
DATE	F	REMARKS
4-11-89	115 1 800	Underground
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	REPORT OF F	EAU OF BUILDINGS LUMBING INS	PECTION	
Address	10400 N I	ombard		Permit <u>190405</u>
Owner	Toyota			
Contractor		Plumbing	& Htg.	
Stories and Cla	ass of Building	Co	mmercial	
Water Closets		_ Hot Water Tank	·	Conn. Cesspool
Shower		Auto Cl. Washe	er	Seepage Trench
Bathtub		Auto Dishwash	er	Dry Wells
Basins		Service Sinks_		_ Conл. Sewer
Kitchen Sink _		Urinals		Conn. Storm <u>132 </u>
Disposal		Fountains	 _	_ Sewer Cap
L'aundry Tray	 	Floor Drain		Sewer Cap
Heat Pump		Area Drain		_ Heat Exchanger
Water Service		Rain Drains	3-N	_ Solar Panel
Bomarks K	letar to	2900	26	·
Date of Cover I	nspection		_ Date of Final In	spection 2-1-84
		Inspect	or //	Inspector



RE	BUREAU OF BUILDINGS PORT OF PLUMBING INSPECT	Date 1/17/89
		Permit 290026
ОwпетТ	ovota	
ContractorM	oore Exc.	The second secon
Stories and Class (of Building Comme:	rcial Car Wash
Water Closets	Hot Water Tank	Conn. Cesspool
Shower	Auto Cl. Washer	Seepage Trench
Bathtub	Auto Dishwasher	Dry Wells
Bāsins	Service Sinks	Conn. Sewer 75 S33.00
Kitchen Sink	Urinals	Conn. Storm
Disposal	Fountains	Sewer Cap
Laundry Tray	Floor Drain	Catch Basin
		Heat Exchanger
Water Service	Rain Drains	Solar Panel
Remarks		
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RE	BUREAU OF BUILDI	NGS INSPECTION Date 9/8/86	
Address 10400 N	LOMBARD	Permit //999	
		(E 187 H 5 In)	
Owner TOYOTA	TRUCK a	way Balding	
Contactor B & J FX	c		
Stories and Class of Building _	BUSINESS		
Water Closets	Hot Water Tank	Conn. Cesspool	
Shower	Auto Cl. Washer	Seepage Trench	
Bathtub	Auto Dishwasher	Dry Wells	
		Conn. Sewer	
Kitchen Sink	Urinals	Conn. Storm400 !	
		Sewer Cap	
Laundry Tray	Floor. Drain	Catch basin	
Heat Pump	Area Drain	Heat Exchanger	
Water Service	Rain Drains	Solar Panel	
Remarks ST SEWER	FOR PARKING &	ROOF DRAIN	
Date of First Inspection	Date of	of Final Inspection	
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		SPECTION Date 8-1-86
Addition		Permit74648
Lot Blk	Add	
OwnerToyota_	Sales	TOUR SE
ContactorAngel's	Plumbgin	* ; *
Stories and Class of Building _	OldOffice-	:
Water Closets	Hot Water Tank	Conn. Cesspool
Shower	Auto Cl. Washer	Seepage Trench
Bathtub	Auto Dishwasher	Dry Wells
Basins	Service Sinks	Conn. Sewer 1N 131'-4"
Kitchen Sink	Urinals	Conn. Storm 130 -8"
		Sewer Cap
Laundry Tray	Floor Drain	Catch basin
		Heat Exchanger
		Solar Panel
Remarks IN Oil Sepa	<u>arator; add to pe</u>	er. #62450
Date of First Inspection	Date of Fj	inal Inspection 12-19-86
	Inspector	mellerInspector

77. 22.

10400 N. Lombard - Add -Owner Tovota Sales Contactor Angel's Plba 01d/add offices/wareh Stories and Class of Building . 1M -"Water Closets _____ _Hot Water Tank Conn. Cesspool Shower Auto Cl. Washer Seepage Trench . 7 N Auto Dishwasher Dry Wells Bathtub _ 7N Service Sinks _ JΝ Conn. Sewer _ Basins _ ΙN 2NConn. Storm . Kitchen-Sink ... Urinals _ Fountains _ Sewer Cap . Disposal _ 5Ñ Floor Drain Catch basin . Laundry Tray. Heat Exchanger Heat Pump _ Area Drain Rain Drains Solar Panel . Water Service .. overflows_ 2-Bradlevs Date of Final Inspection _ Date of First Inspection. REMARKS DATE Couldn't locate WORK Duww 7-11-86 underslab at North end - Offen 7-14-86 Pantial Stonm - Violation San - Polm 8-1-86 8-4-86 Storm & Saw. OK -PJM 14 Aug 86 Bathroom Grid 5-6 16-H Coven for Toilet Room at la-1-H-J 8-19-86 8-29-86 Oil Separator & anderground Phose 2 - Pfm 295est86 Underground OK Buthrooms o Grid lines 2+3/F-H R 10-6-86 T.O. for Tollet Rooms & Stop work - TRuckaway Building 10-17-86 Row Drains Covened w/o insp. 10-20-86 General Contractor to uncover Raw Drain 10-22-86 Not Ready Vio lations - CONN. CI to CONC. (0-23-86

10-27-86 for Women's Restroom on Final Caulk Fixtures Violation - C.O. at Truckaway 11-17-86 Violation Not Ready 12-11-86 Refer to Flat Drawing

ot B	lk Add	Permit_513538
OwnerToxota		EMPZED'57
ContractorDe	e Temple Co	* ENUED:
Stories and class of bu	ilding <u>old 2 story</u>	offiœ
m' ·		Cesspool
Eath, Shower	Auto, CI. Washer	Conn. Cesspool
Bath Tub	Auto, Dishwasher	Dry Well
Basins	Drain Floor	Conn. Drywell
Sinks	Drain Area	Conn. Sewer
Laundry Trays	Rain Drains	Storm Sewer
Bldg, Pmt.	Water Ser.	Catch-Basins
Remarks		
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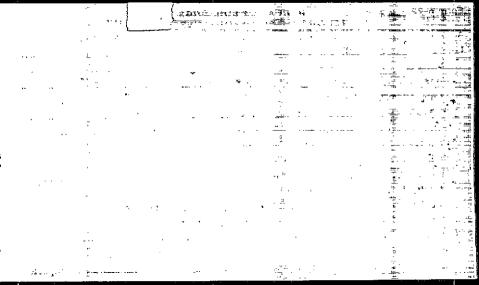


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Address	10400 N.		ibang ingki i	Permi020	3825
Lot			Id <u>**</u>		
Owner	Port of	Portland	d /	SMISPIST	*
Contractor	Grinnell	Fire P	rotection	######################################	·
Stories and class	of building	new	one-stbry	warehouse/of	fice
Water Closets _	Но	t-Water Tan	k	Cesspool	
*				Conn. Cesspool	
Bath Tub	Au	to. Dishwas	her	Dry Well	<u> </u>
Basins	Dr	ain Floor 🔔	 '	Conn. Drywell	
Sinks	Dr	ain Area	· · · · ·	Conn. Sewer	
Laundry Trays	Ra	in Drains		Storm Sewer	
Bldg. Pmt	Wa	ter Ser.		Catch-Basins	
Remarks	551 fire	sprink	Ler neads	Catch-Basins	
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Date of First In	spection		Date of Final	Inspection	
	I	nspector	·		- Inspector

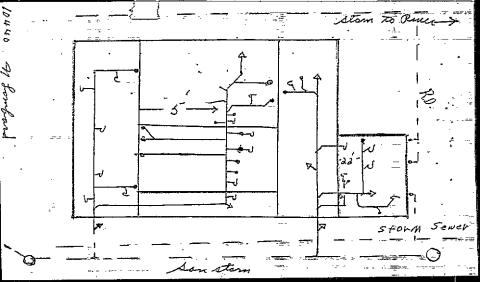
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Form W-89 (4-74)	REPORT OF PLUMBING INSPECTION Date 8/5/76					
Address	10400 N. Lomb	pard	VOPECTION	Permit 020	1928	
	Blk	_ Add _ TL	(59) Sec	. 1, 1S,	1W	
Owner	Port of Port	land, Box	<u>3529 9</u>	7208		
- Contractor	Copenhagen,	Inc.			<u> </u>	
~ Stories and clas	s of building <u>new</u> 1	two-story	paint bl	dg & car	wash	
	Hot-Wate					
	Auto. Cl.		_			
	Auto, Di			-		
Basins	Drain Flo	oor	Conn. Dr	ywell	· 	
	Drain Ar					
Laundry Travs	Rain Dra	ine .	Storm Se	wer		
Bldg, Pmt, <u>50</u>	0923 Water Ser 10N manholes	r. 4" 2N	Catch-Bas	ins	33N	
Remarks	10N manholes	$; 5,550_1$	f. of	wers	<u> </u>	
	lee 9" X //	" whit	e dian	ry.	=	
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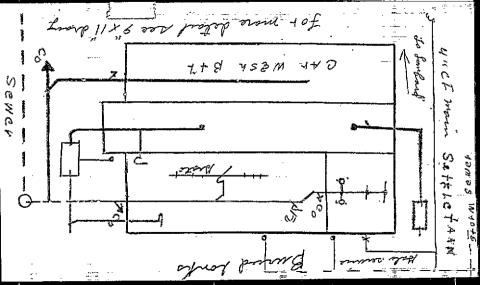


Address 10100 N Lombard St. Permit 02017	<u>76 </u>
	7
Lot 59 Rtk Sec. 2, TlNxxxx RlW, Mult. Co., Ore.	 =
Owner Port of Portland, Box 3529	
Contractor DeTemple Co.	, rues de 1,489
Stories and class of building <u>1 Point & Pre-delivery bldg.</u>	
Water Closets Hot-Water Tank TW Cesspool	<u></u> ,
Bath, Shower Auto. Cl. Washer Conn. Cesspool	
Bath-Tub Auto. Dishwasher Dry Well	
Basins 5N _ Drain Floor 23N _ Conn. Drywell	
Sinks Ord 2N Drain Area Conn. Sewer 2N	<u> 10'</u>
Laundry Trays Rain Drains 11N Storm Sewer 1N	<u> 10'</u>
Bldg. Pmt. Water Ser. Catch-Basins	
Remarks Wash sinks 2N; water tanks 6N; Urinals 3N;	<u> </u>
Fountains 3N; P.C. \$23 Lee 9" 11" Drawn	<u>ے سہ یہ سی ہیں</u>
Date of First Inspection 7-6-76 Date of Final Inspection 11-17-76	
Janow Inspector Luther a know Ins	



Form W-89 BUREAU OF BUILDINGS Sate 7-29-76 (4-74) REPORT OF PLUMBING INSPEC
Address 10402 N. Lombard Street Permit 0201796
Lot 59 Sec. 2. TIN RIW, Mult Co., Ore.
Owner Port of Portland, Box 3529 ENTAGED 37
Contractor DeTemple Co.
Stories and class of building New 1 story vehicle wash bldg.
Water Closets 3N Hot-Water Tank 3N Cesspect
Bath, Shower Auto. Cl. Washer Conn. Cesspool
Bath-Tub Auto. Dishwasher Dry Well
Basins 2N Drain Floor 9N Conn. Drywell 1N 10
Sinks Drain Area Conn. Sewer
Laundry Trays Rain Drains 2N _ Storm Sewer 1N 10*
Bldg, Pmt Water Ser, Catch-Basins
Remarks Urinals IN, Fountains IN, 2" R.P. device IN,
Sampling Manhole IN, P.C. \$11
Date of First Inspection 7-6-76 Date of Final Inspection Manual 17-76
Inspector <u>Futhir a brow</u> Inspector

. .



Date 7/27/48 UMBING INSPECTION Permit_199686 Burgard Street I OMBARD Lot Owner Continental Can Co. 5W Contractor Urban Plbg. & Htg. Co. Stories and class of building Trailer #302 - Trailer House Project Toilets Floor Drains Beer Cab. Bath Tubs Refr. Drains Refr. Drains Bath Showers Urinals Urinals Basins H. W. Tanks Catch Basins Sinks Cesspool Water Service 1 Laundry Trays Dry Wells Conn. To Sewer Water Permit 189831" Bldg. Pmt. 298976 Sewer Permit 55241 Remarks SEE LARGE BLUE PRINTS Date of First Inspection Date of Final Inspection 7, 30 40 ____Inspector



Appendix B

Level 1 Ecological Risk Assessment

Level I Ecological Risk Assessment

Former Crown Cork and Seal Facility 10200 N Lombard Street Portland, Oregon 9203 ESCI #5864

June 2015

Prepared for: Mecox Partners II, LLC 417 Fifth Avenue New York, NY 10016

Prepared by:



111 S.W. Columbia, Suite 1500 Portland, OR 97201-5850

Job No. 33765194

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			2.1.2 Site History	
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Acronyms and Abbreviations

bgs below ground surface COI chemical of interest

DEQ Oregon Department of Environmental Quality

ERA ecological risk assessment
ESA environmental site assessment
ESU evolutionarily significant unit

NFA no further action

OAR Oregon Administrative Rule

ORBIC Oregon Biodiversity Information Center

PAH polycyclic aromatic hydrocarbon

PCB polychlorinated biphenyl

RCRA Resource Conservation and Recovery Act

SOC species of concern

TPH total petroleum hydrocarbons

USDA United States Department of Agriculture

VOC volatile organic compound

1.0 EXECUTIVE SUMMARY

On behalf of Mecox Partners II, LLC (Mecox), AECOM has prepared this Level I Scoping Ecological Risk Assessment (ERA) for the former Crown Cork and Seal property (also referred to as the subject property) located at 10200 N Lombard Street in Portland, Oregon (Figure 1). This report has been prepared in support of obtaining a No Further Action (NFA) closure for the site's ECSI case, #5864.

The subject property is a former metal can manufacturing facility (Crown Cork and Seal) that operated from approximately 1950 until November 2011. It comprises 23.3-acres in a mixed industrial and residential area in North Portland, of which about 6.4 acres are undeveloped. The subject property is currently vacant (Section 2.1.2).

As part of plant closure activities, the property owner performed analytical sampling on the developed portion of the property, within and beneath the former warehouse building, beneath the immediately surrounding paved area, and in the drainage conveyance system (Figure 2). The following chemicals of interest (COIs) were detected within the subsurface soil, conveyance sediment, and groundwater samples: total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and metals (Sections 2.1.4 and 2.2.1).

In January 2015, AECOM performed a Level 1 Scoping site visit to document potential ecological receptors and pathways at the subject property. The undeveloped western section of the property includes wooded and scrub-shrub habitat. Vegetation is dominated by weedy species characteristic of disturbed urban areas, such as English Ivy and Himalayan Blackberry (Section 2.2.3). A variety of wildlife, particularly birds, was observed to use the site. No adverse ecological effects from past industrial activity at the nearby developed portion of the property were observed on the undeveloped portion (Section 2.2.2).

AECOM evaluated the property for the potential presence of sensitive environments and species of concern as described in Oregon Administrative Rule (OAR) 340-122-115. No sensitive environments or species of concern were identified on the property (Sections 2.1.5 and 2.1.6).

AECOM reviewed potential pathways to ecological receptors on the subject property. COIs have been identified within and beneath the former warehouse building, the immediately surrounding paved area, and within the drainage conveyance system. Groundwater at this site is located more than 80 feet below ground surface. (Section 2.2.1). No complete pathways between COIs and ecological receptors were identified for the subject property (Section 2.2.5). Based on these findings, no additional ecological evaluation is recommended (Section 2.3).

1.1 Limitations and Uncertainties

AECOM performed this Level I Ecological Risk Assessment with care, following the applicable regulatory guidelines and exercising the customary thoroughness and competence of environmental consulting professionals. The conclusions in this report are based upon information obtained on the condition of the site on the date of the site reconnaissance, supplemented by information and data obtained by URS (now known as AECOM) during the course of previous and ongoing site investigations. The interpretations and conclusions contained in this report are based on the best professional judgment and experience of AECOM in conducting similar assessments and on current regulations.

It is important to recognize that even a comprehensive scope of services may fail to detect every environmental condition, and that both ecological conditions and applicable regulations can change over time. The scoping visit was not a comprehensive biological inventory. However, potential special-status species and their habitat requirements were identified prior to the site visit, and a thorough, good-faith effort was undertaken to observe and document any indications of the potential presence of these species.



2.0 LEVEL I ECOLOGICAL RISK ASSESSMENT

According to the Oregon Department of Environmental Quality (DEQ) *Guidance for Ecological Risk* Assessment (DEQ, 2001), the ERA process is tiered and progressive, consisting of Level I Scoping, Level II Screening, Level III Baseline, and Level IV Field Baseline. The Level I ERA begins with compiling information on the site, identifying contaminants of interest (COIs; based on their suspected or known presence at the site), and evaluating receptor-pathway interactions. The purpose of a Level 1 Scoping Assessment is to:

- Provide a conservative qualitative determination of whether ecological receptors and exposure pathways are present or potentially present at a site or in the site vicinity.
- Identify sites that are devoid of ecologically important receptors or habitats (not due to gross contamination) and where exposure pathways are deemed incomplete.
- Identify sites and COIs that warrant additional risk-based evaluation.

AECOM completed DEQ's Ecological Scoping Checklist and Evaluation of Receptor-Pathway Interactions (DEQ, 2001). These are provided as Appendix B, Attachment 1 and Attachment 2, respectively.

The following report organization follows DEQ's recommended outline for Level 1 Scoping ERAs:

- Section 2.1 Summary of Existing Data
- Section 2.2 Summary of Site Visit
- Section 2.3 Recommendations
- Section 3.0 References

2.1 Existing Data Summary

2.1.1 Site Location

The site is located at 10200 North Lombard Street, Portland, Multnomah County, Oregon (Figure 1), approximately 1,000 feet east of the Willamette River. It comprises approximately 23.3 acres and is developed with a warehouse, rail spur, water tower, and paved parking (Figure 2). The gravel rail spur connects the top, eastern developed portion of the property with the neighboring lower-elevation industrial corridor and trunk rail line to its west. Approximately 6.4 acres of the western portion of the property is undeveloped and consists of a vegetated bluff and hillside. The bluff is approximately 80 feet high. Land use to the north and west of the subject property is primarily industrial and transportation-oriented. Land use to the east and south is primarily residential. Photos 16 through 19 in Appendix A show land use conditions on adjoining properties.

2.1.2 Site History

Early aerial photographs (URS, 2012a) show that the first developed use of the property was as a farm. The original development date is not known but was prior to the 1920s. Farm buildings were located in the western portion of the lot (currently undeveloped and vegetated). Grain fields comprised the remaining areas of the property and surrounding properties.

By 1948, the warehouse building was constructed. Building configurations have not changed significantly since that time, although the paved area around the warehouse has expanded. The warehouse was originally operated by the Continental Can Company (URS, 2012b). The most recent operator at the

property was Crown Cork and Seal, which ceased operations in 2011. As part of the plant closure, the property owner conducted Phase I (URS 2012a) and Phase II (URS 2012b, URS 2013) environmental site assessments (ESAs). As detailed in Section 2.1.4 below, these investigations identified recognized environmental conditions and COIs relating to past operations at the property.

2.1.3 Current and Future I and and Water Use

The property is currently vacant. Since approximately 1948, land use on the property has been manufacturing / industrial. Currently, the warehouse area of the property is zoned General Industrial 2 (IG 2) (City of Portland, 2015a). A strip along the southern property boundary has a "b" buffer overlay zoning, designating a buffer zone for the adjoining residential area. The rail spur is zoned General Employment 2 (EG 2). General Employment zoning allows both industrial and commercial uses.

The future land use of this property is anticipated to remain industrial. Its zoning and its development with a warehouse and rail spur favor this future use.

No surface or groundwater is currently in developed use on the site. No water well logs have been identified for the property (OWR, 2015). The site is currently provided with potable water by the City of Portland municipal system (City of Portland, 2015b). No future use of groundwater is anticipated. Any future drinking water supply for the site is anticipated to be serviced by the City of Portland municipal system.

2.1.4 Known or Suspected Hazardous Substance Releases

While no specific release incidents were known at the site, as part of plant closure, the property owner investigated developed areas of the property where releases had the highest potential to have occurred for the following COIs:

- Volatile organic compounds (VOCs)
- · Gasoline and diesel range petroleum hydrocarbons (TPH)
- Polycyclic aromatic hydrocarbons (PAHs)
- Metals
- Polychlorinated biphenyls (PCBs)

As discussed in Section 2.2.1, these investigations found that prior manufacturing activities resulted in localized VOC, TPH, and/or PAH impacts to areas within the warehouse, to groundwater, to subsurface soils beneath the building, to the drainage conveyance system, and to subsurface soils beneath paved areas immediately adjacent to the building. Section 3 of the Site Investigation Work Plan (URS, 2015) describes the locations and results of prior investigations at the subject property.

2.1.5 Sensitive Environments

As described in OAR 340-122-115, "sensitive environments" include designated critical habitat; national parks, game management areas, marine sanctuaries and wildlife refuges; designated recreation areas and campgrounds; wild and scenic rivers; wilderness; and wetlands.

No designated critical habitat, national parks, wild and scenic rivers, game management areas, marine sanctuaries, wildlife refuges, campgrounds, designated wilderness areas, or wetlands are located on or adjoining the site.

2.1.6 Threatened and Endangered Species

AECOM contacted the Oregon Biodiversity Information Center (ORBIC) to obtain information on the occurrence of rare, threatened, or endangered species in the vicinity of the site. ORBIC compiles data from State and Federal Agencies into a comprehensive database of known locations for Federally- and State-listed threatened, endangered, and other special-status species. ORBIC provided the following list of special-status species that are found or in the past have been found within approximately two miles of the site. Appendix C includes a copy of the report from ORBIC. At the request of ORBIC and due to the sensitive nature of this information, the specific location information has been redacted.

Table 1. ORBIC List of Special Status Species

Species	Common name	Federal Status	State Status
Fish			
Acipenser medirostris	Green sturgeon	Species of concern	-
Oncorhynchus kisutch pop. 1	Coho Salmon (Lower Columbia River ESU)	Listed threatened	Listed Endangered
Oncorhynchus mykiss pop. 27	Steelhead (Lower Columbia River ESU, winter run)	Listed threatened	Sensitive – critical
Oncorhynchus tshawytscha pop. 21	Chinook salmon (Lower Columbia River ESU, spring run)	Listed threatened	Sensitive – critical
Oncorhynchus tshawytscha pop. 22	Chinook salmon (Lower Columbia River ESU, fall run)	Listed threatened	Sensitive – critical
Oncorhynchus tshawytscha pop 23	Chinook salmon (Upper Willamette River ESU, spring run)	Listed threatened	Sensitive – critical
Reptiles			
Chrysemys picta	Painted turtle	-	Sensitive – critical
Birds			
Ageaius tricolor	Tricolored blackbird	Species of concern	-
Falco peregrinus anatum	Peregrine falcon	-	Sensitive – vulnerable
Haliaeetus leucocephalus	Bald eagle	-	Sensitive – vulnerable
Invertebrates		<u> </u>	
Anodonta californiensis	California floater (mussel)	Species of concern	-
Fisherola nuttallii	Giant Columbia River limpet	*	*
Fluminicola virens	Olympia pebblesnail	*	*
Plants			
Carex comosa	Bristly sedge	*	*
Howellia aquatilis	Water Howellia	Listed threatened	Listed threatened
Rotala ramosior	Toothcup	*	*
Sullivantia oregana	Oregon sullivantia	Species of concern	Candidate
Zizia aperta	Golden alexanders	*	*

Notes: * Although they do not have legislative status, these species were listed in the ORBIC report because ORBIC participates in an international system for ranking rare, threatened, and endangered species and these species have global or state rankings under this program and are ranked in the (Oregon) National Heritage Program rare species list (Appendix C).



2.2 Summary of Site Visit

In order to document the ecological features of the site in fulfilment of the Level 1 scoping checklist, Ms. Susan Garland, of AECOM, visited the site on January 29, 2015. Ms. Garland also reviewed site photographs taken by URS (now AECOM) during previous site visits in March and July 2012 and in September 2014.

2.2.1 Contaminants of Interest

URS performed analytical site investigations to determine whether any COIs from past industrial use of the property are still present in the soil (URS, 2012b), in the building (URS, 2014), or in groundwater (URS, 2013). Sampling locations were chosen based on the specific locations of past industrial activities and on potential drainage pathways. Section 3 of the Site Investigation Work Plan (URS, 2015a) describes the locations of prior investigations at the site and includes results from previous investigations. A technical memorandum (URS, 2015b) summarizes the most recent investigations of drywell and drainage conveyances, soil, indoor air, sub-slab vapor, and groundwater. The hazardous substances investigated on the subject property include:

- Volatile organic compounds (VOCs)
- Gasoline and diesel range petroleum hydrocarbons (TPH)
- RCRA Metals
- · Polychlorinated biphenyls (PCBs)
- Polycyclic aromatic hydrocarbons (PAHs)

The results of the initial ESA of investigation eliminated the suspected presence of PCBs as all sample results for PCBs were non-detect. Metals concentrations in soil generally were below regional background levels. PAHs and VOCs were detected in soil beneath the warehouse building only. TPH was detected in soils in several locations both beneath the building and beneath paved areas immediately outside the building (URS 2012).

In February and November 2013, additional investigations were performed to assess groundwater on the property, to investigate potential soil vapor impacts from VOCs and TPH near the Coater mixing room, and to more fully characterize impacted soil near the drum coater room and beader storage areas. Based on the results of the initial ESA, the COIs for this follow-on ESA only included VOCs, TPH, and PAHs. The Site Investigation Work Plan (URS, 2015) includes full analytical results from previous phases of investigation. In 2015, low levels of TPH and associated PAHs were detected in sediment within enclosed drainage system conveyances (URS 2015b).

Groundwater at the site is located more than 80 feet below ground surface (bgs), and the groundwater investigation found no indications that site-related COIs were reaching nearby surface waters through this pathway (URS, 2014).

2.2.2 Observed Impacts

No adverse ecological impacts are apparent from releases at the site. Habitat on the undeveloped portions of the site is dominated by invasive plant species such as English ivy, Himalayan blackberry, scotch broom, etc. This plant community assemblage is typical of unmanaged vegetation in disturbed urban areas and is not indicative of contaminant releases at the property. Available habitat on the property is utilized by bird species and small mammals. Photographs in Appendix A show examples of the typical ecological conditions across the property.

Based on previous site investigations, releases have occurred to the interior and subsurface of the warehouse building, and subsurface soils beneath the paved exterior immediately adjacent to the building, and enclosed piping and catch basin sumps of the drainage system. Observed wildlife use of these area was low; likely the result of the area's being covered with buildings/pavement. Future use by wildlife of the developed portion of the property is expected to remain low as it is anticipated to remain in industrial use. Opportunistic vegetation has begun to grow in pavement cracks since the property became vacant.

2.2.3 Ecological Features

Figure 3 shows the locations of ecological features on the property. Boundaries should be considered approximate – ecological features typically do not have exact boundaries and best professional judgments can differ on their precise placement. As discussed in the Level I Scoping Checklist Part 3 (Appendix B, Attachment 1) ecological features identified on the property include:

- Hillside with mature trees Terrestrial wooded habitat 1: The western end of the property is undeveloped, and a wooded area primarily comprised of Alder (Alnus rubra) and Douglas-fir (Pseudotsuga menziesii) has grown up since the 1940s. The understory is heavily dominated by thick cover of invasive species such as Himalayan blackberry (Rubus armeniacus) and English ivy (Hedera helix). Photos 1 through 3 show conditions typical of this habitat. Wildlife observations consisted of bird species including a red-tailed hawk (Buteo jamaicensis), black-capped chickadees (Poecile atricapillus), Western scrub jays (Aphelocoma californica), and several other types of songbirds. Habitat 1 covers about 5.25 acres.
- Paved / structure-covered areas Terrestrial-ruderal habitat 2: This area comprises the warehouse building and paved surfaces surrounding it. Photos 4 through 6 show ecological conditions typical of this area. This area covers approximately 12.78 acres. Vegetation includes small areas of landscaped shrubs between the building and parking lot, and opportunistic plant growth through cracks in the pavement by moss, lawn grass, and butterfly bush (Buddleja davidii). Noted signs of wildlife use included a crow (Corvus brachyrhynchos) perched on the building's roof (photo 6).
- Compacted gravel *Terrestrial-ruderal* habitat 3: A gravel rail area traverses the steep bluff at the far west end of the property. This area and a currently vacant area of compact gravel north of the warehouse comprise Habitat 3. Habitat 3 covers about 2.00 acres. Plant cover was generally patchy and included grasses, Queen Anne's lace (*Daucus carota*), Scotch broom (*Cytisus scoparius*), blackberry, and sweet pea (*Lathyrus odoratus*). Observed wildlife included American robins (*Turdus migratorius*), mourning doves (*Zenaida macroura*), sparrow/finch spp., crows, and scrub jays. Photos 7 through 10 show typical ecological conditions in Habitat 3.
- Old field / water tower Terrestrial scrub-shrub / grassland habitat 4: At the top of the bluff is a relatively flat hilltop that was maintained as a mowed grassy area through 2011. It comprises about 1.45 acres. Based on City of Portland aerial photographs (portlandmaps.com, 2015), since about 2012, blackberry and other scrub species have begun growing up, and brambles are now present throughout the hilltop. An old water tower is located here, which is now in use as a platform for cellular communications equipment. Noted signs of wildlife use included a number of rodent burrows just west of the water tower (Photo 12), and scrub jays and kinglets (Regulus sp.) flying overhead between the neighboring residential area to the south and Habitat 1 to the west. The top of the tower was examined through binoculars and no nests or other signs of habitation were observed. Photos 11 through 13 show conditions typical of Habitat 4.
- Ornamental landscaping and lawn Terrestrial ruderal habitat 5: The eastern edge of the property, adjacent to North Lombard Street, is developed with maintained lawn and ornamental tree and shrub species. This area covers about 1.05 acres. Typical plant species include ornamental maple, birch, laurel, cypress, and lawn grass. The northernmost portion has been overtaken by blackberries. No signs of wildlife use were observed. Photo 14 shows conditions typical of Habitat 5.

2.2.4 Ecologically Important Species and Habitats

For the purposes of an Ecological Risk Assessment, DEQ defines ecologically important species as:

- individual listed threatened and endangered species;
- local populations that are recreational and/or commercial resources; that have a known susceptibility to the hazardous substance; or are vertebrates:
- invertebrate populations that provide a critical food resource for higher organisms, that perform a
 critical ecological function that cannot be replaced, or that can be used as a surrogate measure of
 adverse effect for individuals or populations of other species;
- plants that are listed as threatened or endangered or that form the habitat for an ecologically important species.

Special status species

No individual listed threatened or endangered species or species of concern (SOCs) were observed on or adjoining the property. AECOM did not perform a comprehensive species inventory of the site. During the Scoping site visit AECOM targeted portions of the site with habitat characteristics most likely to support potential species of concern.

Ten of the 13 special-status wildlife species listed in the ORBIC report for the property's vicinity are fully or partially aquatic. These include six populations of fish, one turtle species, and three aquatic invertebrates. See Appendix C for details. As there is no surface water on or adjacent to the property, none of these species are potentially present.

Five special-status plant species are included in the ORBIC report. The habitat requirements of the listed species are not met by conditions on the subject property. Three of the plant species (*Carex comosa*, *Howellia aquatilis*, and *Rotala ramosior*) are obligate wetland species (USDA, 2015). No wetlands are present on the site, and its topography is not conducive to the formation of wetlands. *Sullivantia oregana* grows on "moist basalt cliffs, seepy rock faces, and the spray zone of waterfalls" (DNR, 2015). *Zizia aptera* requires moist meadows on calcerous bedrock (Farnsworth, 2003). As none of these conditions are found on the subject property, none of these species are potentially present.

Three of the listed species are birds. These include tri-colored blackbirds (*Agelaius tricolor*), Peregrine falcons (*Falco peregrinus*), and bald eagles (*Haliaeetus leucocephalus*). Tri-colored blackbird nest in large marshes but may forage in old fields such as Habitat 4 (Audubon Society, 2015). Falcons and bald eagles sometimes nest on large man-made structures such as the Habitat 4 water tower, and may perch on mature trees such as those found in Habitat 1 (Audubon Society, 2015). The water tower was examined closely through binoculars and no signs of nests were observed. No blackbirds were observed during the site visit. The only raptor observed during the site visit was a red-tailed hawk in Habitat 1.

Wildlife

No recreational / commercial species or significant invertebrate populations were identified on the property. As discussed in the Section 2.2.3, the observed common species of vertebrate wildlife on the property and evidence of wildlife were as follows:

- Mammals: rodent burrows in Habitat 4; gray squirrel (Sciurus sp.) in Habitat 3.
- **Birds**: sparrow / finch spp., kinglets, crows, mourning doves, robins, red-tail hawk, black-cap chickadees, scrub jays, and dark-eyed juncos (*Junco hyemalis*). These species were primarily observed in Habitats 1 and 3.

Plants



No listed threatened or endangered plants were observed on the property, and all of the five such plants on the ORBIC report for the property's vicinity have habitat requirements that are not met by conditions on the property.

2.2.5 Exposure Pathways

Previous Phase II reports identified hazardous substance releases in several locations in and near the former manufacturing building and the rail spur drainage conveyance. On the subject property, ecological habitat and ecological receptors were identified in Habitat Areas 1, 3, and 4, while site COIs are present in Area 2, "paved / structures" and area 3, "gravel".

Appendix B, Attachment 2 provides the evaluation of receptor-pathway interactions. As summarized in Table 2, below, none of the ecologically important species and habitats have complete or potentially complete ecological exposure pathways on the property.

Table 2. Summary of	of Ecological	lly Important	: Receptor P	Pathways Evaluation
---------------------	---------------	---------------	--------------	---------------------

Ecologically Important Species or habitat	Complete Exposure Pathway?
Individual threatened or endangered species	No
Commercial and recreational wildlife populations	No
Ecologically important invertebrate species	No
Ecologically important plant habitats	No

2.3 Recommendations

AECOM has performed a Level I Scoping ERA for the former Crown Cork and Seal facility located at 10200 North Lombard Street, Portland, Oregon. The site has been vacant since approximately 2011. Site investigations identified the presence of COIs in subsurface media on the developed portion of the property.

Adverse effects to ecological habitats and receptors from past industrial uses of the site were not observed during the site visit to the property. Vegetation communities have become established in unpaved portions of the property. Use of the site by a variety of wildlife species (primarily birds and small mammals) was noted. No adverse effects to these wildlife species from past industrial use of the property were observed.

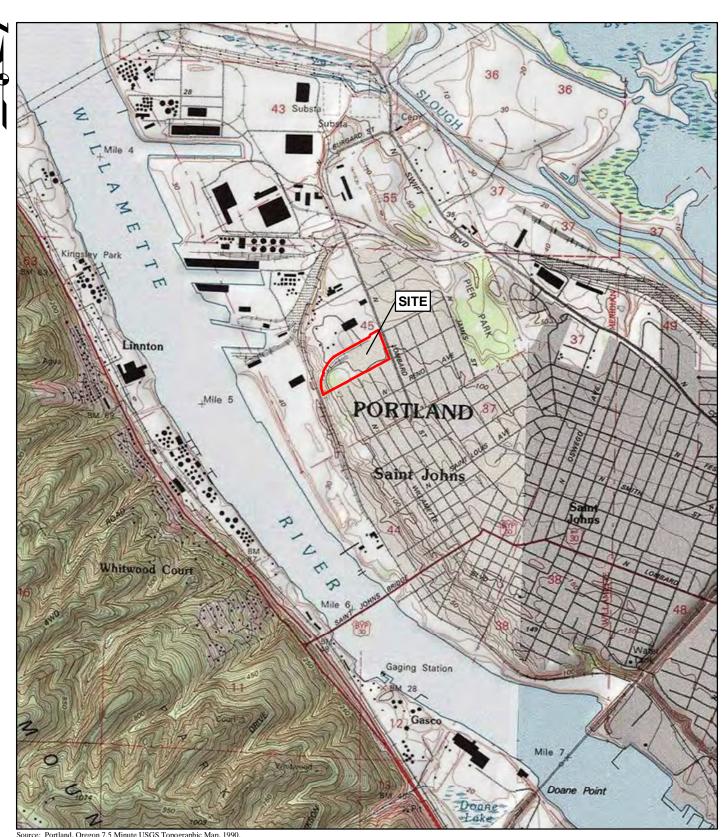
AECOM identified no potentially complete pathways to ecological receptors from COIs at the former Crown Cork and Seal Facility. No additional ecological evaluation of the site is recommended at this time.

3.0 REFERENCES

- Audubon Society, 2015. Guide to North American Birds. Accessed from http://www.audubon.org/field-guide February 13.
- City of Portland, 2015a. City of Portland Zoning GIS layer. Accessed from portlandmaps.com on February 17
- City of Portland, 2015b. City of Portland Water Utilities GIS layer. Accessed from portlandmaps.com on February 17
- DEQ, 2001. *Guidance for Ecological Risk Assessment: Levels I, II, III, IV.* Oregon Department of Environmental Quality, Waste Management & Cleanup Division, Cleanup Policy & Program Development Section. Updated in November 1998, March 2000, and December 2001.
- DNR, 2015. Washington Natural Heritage Program Field Guide to the Rare Plants of Washington. Accessed from http://www1.dnr.wa.gov/nhp/refdesk/plants.html February 13.
- Farnsworth, Elizabeth J. 2003. Zizia aptera (Gray) Fern. Heart-leaved Golden Alexanders. New England Plant Conservation Program. May.
- OWR (Oregon Water Resources Department), 2015. Well log database. Accessed from http://apps.wrd.state.or.us/apps/gw/well_log/Default.aspx January 25.
- URS, 2012a. Phase I Environmental Site Assessment Cannery Property, 10200 North Lombard Street, Portland, Oregon. April 27.
- URS, 2012b. Phase II Environmental Site Assessment. Former Crown Cork and Seal Facility, 10200 North Lombard Street, Portland, Oregon. November 6.
- URS, 2013. Groundwater Investigation Report, Former Crown Cork and Seal Facility, 10200 North Lombard Street, Portland, Oregon. February 13.
- URS, 2014. Coater Mixing Room Investigation Report, Former Crown Cork and Seal Facility, 10200 North Lombard Street, Portland, Oregon. February 2015.
- URS, 2015a. Site Investigation Work Plan. Former Crown Cork and Seal Facility. February 20.
- URS, 2015b. Technical Memorandum. Progress Report, Site Investigation Results, Former Crown Cork and Seal Facility. June 16.
- USDA, 2015. United States Department of Agriculture Natural Resources Conservation Service Plants Database. Accessed from http://plants.usda.gov January 25.

FIGURES





Source: Portland, Oregon 7.5 Minute USGS Topographic Map, 1990. Lake Oswego, Oregon 7.5 Minute USGS Topographic Map, 1984.



VICINITY MAP

FORMER CROWN CORK AND SEAL FACILITY 10200 N LOMBARD ST PORTLAND, OREGON



MAY 2015 33764848





SAMPLING LOCATIONS

FORMER CROWN CORK AND SEAL FACILITY 10200 N LOMBARD ST PORTLAND, OREGON

CCS ECOLOGICAL FEATURES

FORMER CROWN CORK AND SEAL FACILITY 10200 N LOMBARD ST PORTLAND, OREGON



Site Photos

Former Crown Cork and Seal Level I Ecological Risk Assessment

Photo No.

Date 1/29/2015

Direction Photo Taken:

West

Description:

East side of Habitat 1 at the top of the hill. Mature alder overstory with blackberry dominating understory and ivy engulfing many of the trees. A few sword ferns are still present.



Photo No.

•

1/29/2015

Date:

Direction Photo Taken:

East

Description:

English ivy under Douglas fir dominates the slopes on the shady northwest side of the hill. Blackberry in foreground is growing in the rail area / habitat 3. See person in gray shirt, center, for scale.



Date: 1/29/2015

Direction Photo Taken:

Southeast

Description:

Hawk perched on an alder in habitat 1.



Photo No.

1

Date: 1/29/2015

Direction Photo Taken:

West

Description:

Paved south yard with warehouse building on the right. Moss and grass have begun to take hold in cracks in the pavement.



Photo No. Date: 1/29/2015

Direction Photo Taken:

Southeast

Description:

Habitat 2 warehouse and paved area on its northwest side.



Photo No. Date: 1/29/2015

Direction Photo Taken:

North

Description:

Habitat 2. Crow perched on roof of warehouse building.



Date: 1/29/2015

Direction Photo Taken:

South

Description:

Habitat 3. Gravel area on north side of building, with puddle in low spot and grasses growing in.



Photo No.

Date:

8 1/29/2015
Direction Photo Taken:

West

Description:

Looking from edge of paved Habitat 2 to gravel Habitat 3 in the rail area. Forested Habitat 1 is shown on the hillside to the left.



Date: 1/29/2015

Direction Photo Taken:

North

Description:

Gravel Habitat 3 in the rail area, with grasses, Himalayan blackberry, and young trees growing in.



Photo No.

Date: 1/29/2015

Direction Photo Taken:

West

Description:

A pair of doves on a wire over Habitat 3. Other songbirds observed in this habitat included robins, scrub jays, dark-eyed juncos, finch / sparrow spp., and black-capped chickadees.



Date: 1/29/2015

Direction Photo Taken:

South

Description:

Habitat 4. Blackberry scrub has overtaken an old field at the top of the hill. Adjoining residential properties in the background.



Photo No.

Date: 1/29/2015

Direction Photo Taken:

down

Description:

Rodent burrows in Habitat 4.



Date: 1/29/2015

Direction Photo Taken:

up

Description:

Old water tower now being used as a cellular communications tower. Located in old field / habitat 4. No nests were evident after scanning this tower through binoculars.



Photo No.

Date: 1/29/2015

Direction Photo Taken:

South

Description:

Habitat 5. Maintained lawn and landscaping trees on the east side of the property.



Date: 1/29/2015

Direction Photo Taken:

East

Description:

Adjoining commercial and residential development east of the property across N. Lombard.



Photo No.

16

Date: 1/29/2015

Direction Photo Taken:

northwest

Description:

Adjoining north industrial property.



Date: 1/29/2015

Direction Photo Taken:

West

Description:

Habitat 3 in foreground, with adjoining Toyota import facility in mid-ground, followed by the Willamette River, a large tank farm in Linnton, and the West hills in the background.





Scoping Checklist and Evaluation of Receptor-Pathway Interactions

Oregon Department of Environmental Quality

GUIDANCE FOR ECOLOGICAL RISK ASSESSMENT LEVEL I - SCOPING

ATTACHMENT 1 Ecological Scoping Checklist

Site Name	Former Crown Cork and Seal Facility
Date of Site Visit	January 29, 2015
Site Location	10200 N Lombard Street, Portland, OR
Site Visit Conducted by	S. Garland, AECOM

Part **0**

CONTAMINANTS OF INTEREST Types, Classes, Or Specific Hazardous Substances [‡] Known Or Suspected	Onsite	Adjacent to or in locality of the facility †
Volatile organic compounds	Х	X
Gasoline and diesel range petroleum hydrocarbons	X	X
Polycyclic aromatic hydrocarbons	X	Х
Metals		
PCBs		

[‡] As defined by OAR 340-122-115(30)

Part 2

OBSERVED IMPACTS ASSOCIATED WITH THE SITE	Finding	
Onsite vegetation (None, Limited, Extensive)	L	
Vegetation in the locality of the site (None, Limited, Extensive)	N	
Onsite wildlife such as macroinvertebrates, reptiles, amphibians, birds, mammals, other	L	
(None, Limited, Extensive)		
Wildlife such as macroinvertebrates, reptiles, amphibians, birds, mammals, other in the	N	
locality of the site (None, Limited, Extensive)		
Other readily observable impacts (None, Discuss below)	N	
Discussion:		
Vegetation on the site is dominated by weedy and opportunistic species such as Himalayan blackberry and English Ivy.		
Utilization of the site by a wide variety of birds is evident, particularly in the wooded and gravel areas of the site. In the		
paved and landscaped areas, the only observed wildlife was a crow perched on the roof. Moss and opportunistic plants have		
begun to take hold in the paved area around the building. All plant life appears healthy. Identified releases at site have all		
been to subsurface, within the drainage conveyance system, or within the building - there is no access to these areas by		
ecological receptors.		

ATTACHMENT 1

	Ecological Scoping Checklist (cont'd)	
Pa	rt 😉	

SPECIFIC EVALUATION OF ECOLOGICAL RECEPTORS / HABITAT

Finding

Updated November 1998

[†] As defined by OAR 340-122-115(34)

SPECIFIC EVALUATION OF ECOLOGICAL RECEPTORS / HABITAT	Findi	ng
Terrestrial - Wooded	-	
Percentage of site that is wooded	25	
Dominant vegetation type (Evergreen, Deciduous, Mixed)	M	P
Prominent tree size at breast height, i.e., four feet (<6", 6" to 12", >12")	>12	
Evidence / observation of wildlife (Macroinvertebrates, Reptiles, Amphibians, Birds,	B, M	
Mammals, Other)		
Terrestrial - Scrub/Shrub/Grasses		
Percentage of site that is scrub/shrub	7	
Dominant vegetation type (Scrub, Shrub, Grasses, Other)	S, G	P
Prominent height of vegetation (<2', 2' to 5', >5')	2 to 5	
Density of vegetation (D ense, P atchy, S parse)	P	P
Evidence / observation of wildlife (Macroinvertebrates, Reptiles, Amphibians, Birds,	B, M	
Mammals, Other)		
Terrestrial - Ruderal	•	
Percentage of site that is ruderal	68	
Dominant vegetation type (Landscaped, Agriculture, Bare ground)	В	P
Prominent height of vegetation (0', >0' to <2', 2' to 5', >5')	< 2	
Density of vegetation (D ense, P atchy, S parse)	P	P
Evidence / observation of wildlife (Macroinvertebrates, Reptiles, Amphibians, Birds,	В	
Mammals, Other)		
Aquatic - Non-flowing (lentic)		
Percentage of site that is covered by lakes or ponds	0	
Type of water bodies (Lakes, Ponds, Vernal pools, Impoundments, Lagoon, Reservoir,		
Canal)		
Size (acres), average depth (feet), trophic status of water bodies		
Source water (River, Stream, Groundwater, Industrial discharge, Surface water runoff)		
Water discharge point (None, River, Stream, Groundwater, Wetlands impoundment)		
Nature of bottom (Muddy, Rocky, Sand, Concrete, Other)		P
Vegetation present (Submerged, Emergent, Floating)		P
Obvious wetlands present (Yes / No)		
Evidence / observation of wildlife (Macroinvertebrates, Reptiles, Amphibians, Birds,		
Mammals, Other)		
Aquatic - Flowing (lotic)		
Percentage of site that is covered by rivers, streams (brooks, creeks), intermittent streams,	0	
dry wash, arroyo, ditches, or channel waterway		
Type of water bodies (Rivers, Streams, Intermittent Streams, Dry wash, Arroyo, Ditches,		
Channel waterway)		
Size (acres), average depth (feet), approximate flow rate (cfs) of water bodies		P
Bank environment (cover: Vegetated, Bare / slope: Steep, Gradual / height (in feet))		
Source water (River, Stream, Groundwater, Industrial discharge, Surface water runoff)		
Tidal influence (Yes / No)		
Water discharge point (None, River, Stream, Groundwater, Wetlands impoundment)		
Nature of bottom (Muddy, Rocky, Sand, Concrete, Other)		
Vegetation present (Submerged, Emergent, Floating)		P
Obvious wetlands present (Yes / No)		
Evidence / observation of wildlife (Macroinvertebrates, Reptiles, Amphibians, Birds,		

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SPECIFIC EVALUATION OF ECOLOGICAL RECEPTORS / HABITAT	Finding
Mammals, Other)	
Aquatic - Wetlands	
Obvious or designated wetlands present (Yes / No)	N
Wetlands suspected as site is/has (Adjacent to water body, in Floodplain, Standing water,	
Dark wet soils, Mud cracks, Debris line, Water marks)	
Vegetation present (Submerged, Emergent, Scrub/shrub, Wooded)	P
Size (acres) and depth (feet) of suspected wetlands	
Source water (River, Stream, Groundwater, Industrial discharge, Surface water runoff)	
Water discharge point (None, River, Stream, Groundwater, Impoundment)	
Tidal influence (Yes / No)	
Evidence / observation of wildlife (Macroinvertebrates, Reptiles, Amphibians, Birds,	
Mammals, Other)	

^{*} P: Photographic documentation of these features is highly recommended.

Part **4**

ATTACHMENT 2 Evaluation of Receptor-Pathway Interactions

EVALUATION OF RECEPTOR-PATHWAY INTERACTIONS	Y	N	U
Are hazardous substances present or potentially present in surface waters?			
AND			
Are ecologically important species or habitats present?			
AND			
Could hazardous substances reach these receptors via surface water?		Χ	
When answering the above questions, consider the following:			
Known or suspected presence of hazardous substances in surface waters.			
Ability of hazardous substances to migrate to surface waters.			
• Terrestrial organisms may be dermally exposed to water-borne contaminants as a result			
of wading or swimming in contaminated waters. Aquatic receptors may be exposed			
through osmotic exchange, respiration or ventilation of surface waters.			
• Contaminants may be taken-up by terrestrial plants whose roots are in contact with			
surface waters.			
• Terrestrial receptors may ingest water-borne contaminants if contaminated surface			
waters are used as a drinking water source.			
Are hazardous substances present or potentially present in groundwater?			
AND			
Are ecologically important species or habitats present?			
AND		Х	
Could hazardous substances reach these receptors via groundwater?		^	
When answering the above questions, consider the following:			
Known or suspected presence of hazardous substances in groundwater.			
Ability of hazardous substances to migrate to groundwater.			
• Potential for hazardous substances to migrate via groundwater and discharge into habitats			
and/or surface waters.			
• Contaminants may be taken-up by terrestrial and rooted aquatic plants whose roots are in			
contact with groundwater present within the root zone (~1m depth).			
Terrestrial wildlife receptors generally will not contact groundwater unless it is discharged to the conform			
to the surface.			

[&]quot;Y" = yes; "N" = No, "U" = Unknown (counts as a "Y")

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ATTACHMENT 2 Evaluation of Receptor-Pathway Interactions (cont'd)

EVALUATION OF RECEPTOR-PATHWAY INTERACTIONS	Y	N	U
Are hazardous substances present or potentially present in sediments?			
AND			
Are ecologically important species or habitats present?			1
AND			
Could hazardous substances reach these receptors via contact with sediments?		Х	
When answering the above questions, consider the following:			
Known or suspected presence of hazardous substances in sediment.			
• Ability of hazardous substances to leach or erode from surface soils and be carried into sediment via surface runoff.			
• Potential for contaminated groundwater to upwell through, and deposit contaminants in, sediments.			
• If sediments are present in an area that is only periodically inundated with water, terrestrial species may be dermally exposed during dry periods. Aquatic receptors may be directly exposed to sediments or may be exposed through osmotic exchange, respiration or ventilation of sediment pore waters.			
• Terrestrial plants may be exposed to sediment in an area that is only periodically inundated with water.			
• If sediments are present in an area that is only periodically inundated with water, terrestrial species may have direct access to sediments for the purposes of incidental ingestion. Aquatic receptors may regularly or incidentally ingest sediment while foraging.			
Are hazardous substances present or potentially present in prey or food items of			
ecologically important receptors?			1
AND			ı
Are ecologically important species or habitats present?			1
AND			1
Could hazardous substances reach these receptors via consumption of food items?		Х	
When answering the above questions, consider the following:			
Higher trophic level terrestrial and aquatic consumers and predators may be exposed			
through consumption of contaminated food sources.			
• In general, organic contaminants with log $K_{\rm ow} > 3.5$ may accumulate in terrestrial			
mammals and those with a log $K_{ow} > 5$ may accumulate in aquatic vertebrates.			

[&]quot;Y" = yes; "N" = No, "U" = Unknown (counts as a "Y")

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Oregon Department of Environmental Quality GUIDANCE FOR ECOLOGICAL RISK ASSESSMENT **LEVEL I - SCOPING**

ATTACHMENT 2 Evaluation of Receptor-Pathway Interactions (cont'd)

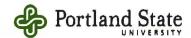
Are hazardous substances present or potentially present in surficial soils? AND Are ecologically important species or habitats present?						
Are ecologically important species or habitats present?						
Are ecologically important species or habitats present?						
AND						
Could hazardous substances reach these receptors via incidental ingestion of or						
dermal contact with surficial soils?	Х					
When answering the above questions, consider the following:						
• Known or suspected presence of hazardous substances in surficial (~1m depth) soils.						
Ability of hazardous substances to migrate to surficial soils.						
Significant exposure via dermal contact would generally be limited to organic contaminants which are lipophilic and can cross epidermal barriers.						
• Exposure of terrestrial plants to contaminants present in particulates deposited on leaf and stem surfaces by rain striking contaminated soils (i.e., rain splash).						
Contaminants in bulk soil may partition into soil solution, making them available to roots.						
Incidental ingestion of contaminated soil could occur while animals grub for food resident						
in the soil, feed on plant matter covered with contaminated soil or while grooming						
themselves clean of soil.						
Are hazardous substances present or potentially present in soils?						
AND						
Are ecologically important species or habitats present?						
AND						
Could hazardous substances reach these receptors via vapors or fugitive dust carried in surface air or confined in burrows?	X					
When answering the above questions, consider the following:	1					
Volatility of the hazardous substance (volatile chemicals generally have Henry's Law						
constant > 10 ⁻⁵ atm-m ³ /mol and molecular weight < 200 g/mol).						
• Exposure via inhalation is most important to organisms that burrow in contaminated soils,						
given the limited amounts of air present to dilute vapors and an absence of air movement						
to disperse gases.						
Exposure via inhalation of fugitive dust is particularly applicable to ground-dwelling						
species that could be exposed to dust disturbed by their foraging or burrowing activities						
or by wind movement.						
Foliar uptake of organic vapors would be limited to those contaminants with relatively						
high vapor pressures.						
• Exposure of terrestrial plants to contaminants present in particulates deposited on leaf and stem surfaces.						

[&]quot;Y" = yes; "N" = No, "U" = Unknown (counts as a "Y")

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Oregon Biodiversity Information Center

Institute for Natural Resources



Mail Stop: INR
Post Office Box 751
Portland, Oregon 97207
503.725.9950
http://orbic.pdx.edu

February 5, 2015

Susan Garland AECOM 111 SW Columbia, Suite 1500 Portland, OR 97201-5850

Dear Ms. Garland:

Thank you for requesting information from the Oregon Biodiversity Information Center (ORBIC). We have conducted a data system search for rare, threatened and endangered plant and animal records for your Mecox 33765068.00001 Project in 10200 North Lombard Street.

Twenty (20) element occurrence records were noted within a two-mile radius of your project and are included on the enclosed computer printout.

Please remember that a lack of rare element information from a given area does not necessarily indicate there are no significant elements present, only that there is no information known to us from the site. To ensure there are no significant elements present that may be affected by your project, you should inventory the site during the appropriate season.

This data is confidential and for the specific purposes of your project and is **not to be distributed**. Please also note that as our database is continually updated, the data in this report should be considered current for a maximum of one year from the date it was generated and should not be cited thereafter.

Please forward the included invoice to the appropriate party in your organization for payment.

If you need additional information or have any further questions, please do not hesitate to contact me.

Sincerely,

Lindsey Wise

Biodiversity Data Manager

lindsey.wise@pdx.edu

503.725.9951

encl.: invoice (H-020515-LKW1)

computer printout and data key

Scientific Name: Haliaeetus leucocephalus

Common Name: Bald eagle

EO NUM: 665

EO ID: 26097

Federal Status:

GRANK: G5

NHP List: 4

Category: Vertebrate Animal ELCODE: ABNKC10010

State Status: SV Confirmed:

First Obs: 2003

SRANK: S4B,S4N

Last Obs: 2006

HP Track: Y EO Rank: E - Verified extant (viability not assessed)

Directions:

WV

Ecoregion

Owner Name/Type

Watershed

1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range Sec 001N001E

County Name

Multnomah

Note

QuadCode QuadName 45122-E6 Portland

Managed Area Name

Annual Observations

Source Feature 41855 - Point

Uncertainty Type (Distance) [Use Class]

EO Data: See annual observations.

Estimated (25 m)

Breeding

• 2006 - 1 fledged

• 2005 - 3 fledged • 2004 - 2 fledged

• 2003 - breeding failure

Feature ID Date Source Observation data

Occurence Data

EO Type:

Min. Elev.(m): 6

EO Comments:

Protection: Management:

Specimens:

General: Isaacs and Anthony nest 1116, 1190, and 1260. Nest 1116 originally built by red-tailed hawks. Nest 1190 built by osprey;

successful nesting on manmade structure.

Scientific Name: Haliaeetus leucocephalus

EO NUM: 803

EO ID: 30883

Common Name: Bald eagle Federal Status:

NHP List: 4

Category: Vertebrate Animal

State Status: SV

SRANK: S4B,S4N First Obs: 2007

HP Track: Y

ELCODE: ABNKC10010

Confirmed:

Last Obs: 2007

EO Rank: E - Verified extant (viability not assessed)

Directions:

County Name Multnomah

Ecoregion

Owner Name/Type

GRANK: G5

1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL CR City of Portland

002N001W

Town-Range Sec Note

QuadCode QuadName 45122-E7 Linnton

Managed Area Name

Source Feature

Uncertainty Type (Distance) [Use Class] Estimated (25 m) Undetermined

Annual Observations · 2007 - 1 fledged.

52113 - Point Feature ID

Date

Source Observation data

Occurence Data

EO Type: EO Data: See annual observations.

Min. Elev.(m): 152

EO Comments: Protection:

Management: Forest Park.

Specimens:

General: Isaacs and Anthony nest 1401.

ELCODE: ABPBXB0020

Oregon Biodiversity Information Center - February 2015 Sensitive Data - Do Not Distribute EO NUM: 164 Scientific Name: Falco peregrinus anatum EO ID: 25885 Common Name: American peregrine falcon Federal Status: **GRANK: G4T4** NHP List: 2 Category: Vertebrate Animal ELCODE: ABNKD06071 SRANK: S2B HP Track: Y State Status: SV First Obs: 1996 Last Obs: 2003 EO Rank: Confirmed: Directions: Sensitive Data - contact ORBIC for more information Owner Name/Type County Name Ecoregion Watershed 1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL Multnomah WV STATE QuadCode QuadName Managed Area Name Town-Range Sec Note 45122-E7 Linnton 001N001W **Annual Observations** Source Feature Uncertainty Type (Distance) [Use Class] 41545 - Point Estimated (50 m) Undetermined · 2003 - 3 young raised in captivity and released · 2002 - ORNHIC has not received data yet · 2001 - ORNI IIC has not received data yet • 2000 - ORNHIC has not received data yet • 1999 - ORNHIC has not received data yet • 1998 - unoccupied nest . 1997 - occupied nest, inactive • 1996 - active nest, nesting failure Feature ID Source Observation data <u>Date</u> Occurence Data EO Type: Min. Elev.(m): EO Data: Documented nesting site. See annual observations and additional topics. **EO Comments:** Protection: Management: Specimens: General: Site OE-44, 2003: 3 young raised in captivity and released, outcome influenced by human intervention. EO NUM: 2 Scientific Name: Agelaius tricolor EO ID: 17658 Common Name: Tricolored blackbird

Federal Status: SOC GRANK: G2G3 NHP List: 2 Category: Vertebrate Animal

Watershed

State Status: SRANK: S2B HP Track: Y

Last Obs: 1989-04-01 EO Rank: H? - Possibly historical Confirmed: First Obs: 1983 Directions:

County Name **Ecoregion** Multnomah W CITY 1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Managed Area Name QuadCode QuadName Town-Range Sec Note

Owner Name/Type

32 45122-E6 Portland 002N001E 002N001W 36 45122-E7 Linnton

001N001E 06 001N001E 08 001N001E 07 001N001E 09

002N001E

001N001E

31

05

001N001E Source Feature Uncertainty Type (Distance) [Use Class] **Annual Observations**

17658 - Point Estimated (1500 m) Undetermined 57296 - Point Estimated (25 m) Undetermined

Source Observation data Feature ID <u>Date</u> 1989-04-01 1 male was observed. 57296

Occurence Data EO Type: Min. Elev.(m): 6 EO Data: 1989 (04-01): 1 male observed. See Sources for detail. 1985: A COLONY OF 20-30 BIRDS PRESENT DURING THE NESTING

SEASON. 1983: 36 BIRDS OBSERVED 6/25-7/31, APPARENTLY NESTING.

EO Comments: DENSE HIMALAYAN BLACKBERRIES ADJACENT TO A BLIND SLOUGH W/ SPARSE TREE COVER ALONG THE

SLOUGH MARGINS

Protection:

Management:

Specimens:

General: Sighting report, Lethaby, 1989. Oregon Birds 15 (4): 307.

SPEPORTED BY HOUCK ET AL. THIS COLONY WOULD

BE ABOUT 250 MI N OF THE CLOSEST NESTING AREAS IN THE ROGUE RIVER VALLEY

Scientific Name: **Acipenser medirostris** EO NUM: 1

Common Name: **Green sturgeon** EO ID: 19198

Federal Status: SOC GRANK: G3 NHP List: Category: Vertebrate Animal State Status: SRANK: S3 HP Track: N ELCODE: AFCAA01030

Confirmed: First Obs: Last Obs: EO Rank:

Directions: COLUMBIA RIVER AND ESTUARY, UPSTREAM TO BONNEVILLE DAM. WILLAMETTE RIVER BELOW WILLAMETTE

FALLS.

County Name **Ecoregion** Owner Name/Type Watershed Clatsop CR STATE 1708000105 - COLUMBIA GORGE TRIBUTARIES W. ME Columbia 1708000106 - GORDON CREEK/LOWER SANDY RIVER WC Multnomah 1708000302 - BEAVER CREEK WV 1708000303 - PLYMPTON CREEK 1708000601 - YOUNGS BAY TRIBUTARIES 1708000602 - BIG CREEK / GNAT CREEK 1709000704 - ABERNATHEY CREEK 1709001201 - JOHNSON CREEK 1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range Sec Note QuadCode QuadName Managed Area Name

008N010W 45121-E8 Tanner Butte We00/800 45121-F8 Bonneville Dam W800/800 45122-C5 Oregon City 009N008W 45122-D5 Gladstone 009N007W 45122-D6 Lake Oswego W800/800 45122-E1 Multnomah Falls 009N006W 45122-E2 Bridal Veil 45122-E3 Washougal 45122-E4 Camas 45122-E5 Mount Tabor 45122-E6 Portland

45122-E7 Linnton
45122-F6 Vancouver
45122-F7 Sauvie Island
45122-G7 Saint Helens
45122-H7 Deer Island
46122-A7 Kalama
46122-A8 Rainier

46122-B8 Kelso 46123-B1 Coal Creek 46123-B2 Oak Point 46123-B3 Nassa Point 46123-B4 Cathlamet

46123-B6 Cathlamet Bay 46123-B7 Astoria 46123-B8 Warrenton

46123-C4 Skamokawa 46123-C5 Grays River 46123-C6 Rosburg

Clatsop Spit

46124-B1

Source Feature Uncertainty Type (Distance) [Use Class]

19198 - Line Linear (8 m) Undetermined 38085 - Line Linear (8 m) Undetermined

Annual Observations

Feature ID Date

Source Observation data

Occurence Data

EO Type: YEAR-ROUND - fish

Min. Elev.(m):

EO Data: NO COLLECTION INFORMATION AVAILABLE. GREEN STURGEON ADULTS ARE ABUNDANT AND THE NUMBERS ARE

STABLE IN THE LOWER COLUMBIA RIVER. THEY ARE RARELY FOUND IN THE COLUMBIA RIVER FROM PUGET ISLAND (RM40) UPSTREAM TO BONNEVILLE DAM AND TO WILLAMETTE FALLS IN THE WILLAMETTE RIVER. (1995 ODFW BIENNIAL

REPORT ON THE STATUS OF WILD FISH IN OREGON)

EO Comments: Protection:

Management:

Specimens:

General: GREEN STURGEON NOT ABUNDANT IN ANY PACIFIC COAST ESTUARY, LITTLE IS KNOWN ABOUT ITS LIFE

HISTORY. THIS SPECIES MORE MARINE ORIENTED THAN WHITE STURGEON AND SPENDS LIMITED AMOUNT OF TIME IN FRESHWATER (EXCEPT PERHAPS EARLY JUVENILES AND SPAWNING ADULTS). B91NOA010RUS.

Scientific Name: Oncorhynchus kisutch pop. 1

EO NUM: 37

Common Name: Coho salmon (Lower Columbia River ESU)

EO ID: 3164

Federal Status: LT

GRANK: G4T2Q

NHP List: 1

Category: Vertebrate Animal

State Status: LE

SRANK: S2

HP Track: Y

ELCODE: AFCHA02031

Confirmed:

001S001E

004N001W

27

10

First Obs: 2001-pre

Last Obs: 2009 EC

EO Rank: E - Verified extant (viability not assessed)

Directions: SCAPPOOSE BAY, MULTNOMAH CHANNEL, WILLAMETTE RIVER

County Name Clackamas Columbia Multnomah		Ecoregion WV	Owner Nam	<u>е/Туре</u>	Watershed 1708000302 - BEAVER CREEK 1709001201 - JOHNSON CREEK 1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL
Town-Range	Sec	Note	QuadCode	QuadName	Managed Area Name
002N001W	06		45122-C5	Oregon City	
002N001W	03		45122-D5	Gladstone	
002N001W	07		45122-D6	Lake Oswego	
002N001W	17		45122-E6	Portland	
002N001W	13		45122-E7	Linnton	
004N001W	03		45122-F6	Vancouver	
002N001W	22		45122-F7	Sauvie Island	
002N001W	24		45122-F8	Dixie Mountain	
002N001W	27		45122-G7	Saint Helens	
002N001E	30		45122-G8	Chapman	
002N001W	35		45122-H7	Deer Island	
002N001W	36				
002N001E	32				
001N001E	05				
001N001W	11				
001N001W	13				
004N001W	09				
001N001E	19				
001N001E	21				
001N001E	27				
001S001E	03				
001S001E	15				
001S001E	22				
001S001E	26				
001S001E	36				
002S001E	02				
002S001E	11				
002S001E	14				
002S001E	10				
002S001E	03				
001S001E	35				

001S001E 10 001N001E 34 001N001E 28 001N001E 20 001N001E 17 001N001E 18 001N001W 12 001N001E 06 001N001W 02 002N001E 31 004N001W 08 002N001W 34 002N001W 25 002N001W 28 002N001W 23 002N001W 21 002N001W 20 002N001W 14 002N001W 18 002N002W 12 002N001W 04 005N001W 34 003N001W 35 003N001W 33 003N002W 36 003N001W 28 003N001W 30 003N002W 25 003N001W 22 003N001W 20 003N001W 15 003N001W 17 003N001W 10 003N002W 12 003N001W 04 003N002W 02 33 004N001W 004N001W 31 004N001W 27 29 004N001W 21 004N001W 004N001W 16 002S002E 19 13 002S001E 004N001W 17 002S001E 24 002S002E 30 004N001W 20 004N001W 30 004N001W 28 004N002W 36 004N001W 34 003N002W 01 003N001W 03 003N001W 09 003N002W 14 003N002W 13 003N001W 16 003N001W 19 003N001W 21 003N001W 23 003N001W 29 003N001W 27 003N001W 31 003N001W 002N002W 01

Source Feature Uncertainty Type (Distance) [Use Class] **Annual Observations**

Data currently not available.

Feature ID Date Source Observation data

Occurence Data

EO Type: REARING & MIGRATION - fish

Min. Elev.(m):

EO Data: 2009: Classified as rearing by ODFW. Undocumented fish observations. 2001: ODFW DISTRIBUTION MAPS USED TO CREATE

THE 1:24,000 COVERAGE. EO Comments: Rearing & migration use.

Protection:

Management:

Specimens:

General: Distribution information used in this EOR was derived from ODFW geographic resources data produced and distributed

in 1999. Unless specific data exists in the data field, the information presented in this EOR represents the "best professional judgement" by ODFW's district fisheries biologist; the presence of coho in described areas should be considered undocumented but as having a potential of being present. EOR was updated using ODFW geographic

resources data produced and distributed in 2004. Updated with 2009 ODFW data.

Scientific Name: Oncorhynchus tshawytscha pop. 23

EO NUM: 91

Common Name: Chinook salmon (Upper Willamette River ESU, spring run)

EO ID: 31243

Federal Status: LT

GRANK: G5T2Q

NHP List: 1

Category: Vertebrate Animal

State Status: SC

County Name

SRANK: S2

HP Track: Y

ELCODE: AFCHA02052

Confirmed:

Ecoregion

First Obs: 2009-pre

Last Obs: 2009

EO Rank: E - Verified extant (viability not assessed)

Directions: From the mouth of the Willamette River to confluence with the Clackamas River.

Portland

Linnton

45122-F7 Sauvie Island

Owner Name/Type

Clackamas W 1709001201 - JOHNSON CREEK Multnomah Town-Range QuadCode QuadName Managed Area Name Sec Note 002N001W 22 45122-C5 Oregon City 001N001E 28 45122-D5 Gladstone 45122-D6 Lake Oswego

45122-E6

45122-E7

1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Watershed

002N001W 13 002N001W 14 001N001E 19 001N001E 18 001N001W 13 002S002E 30 001N001W 12 001N001E 20 001N001E 21 001N001W 11 001N001E 27 001N001E 34 001S001E 03 002S001E 13 002S001E 14 001N001W 02 002S001E 02 002N001W 35 001S001E 35 001S001E 26 002S001E 11 002N001W 34 001S001E 27 002S001E 24 002S002E 19 001S001E 22

002N001W

001S001E

27

001S001E

002N001W

Source Feature

Uncertainty Type (Distance) [Use Class]

Annual Observations

Data currently not available.

Feature ID Date Source Observation data

Occurence Data

EO Type:

Min. Elev.(m):

EO Data: 2009: Classified as rearing by ODFW.

EO Comments: Protection: Management:

Specimens:

General: Distribution information used in this EOR was derived from ODFW 1:24,000 scale geographic resources data produced and distributed in 2009. Use type was determined by ODFW and other natural resources agency field staff based on survey data, supporting documentation, and the best professional judgement of the field biologists. Unless otherwise noted, the presence of chinook in described areas should be considered undocumented but as having a potential of being present.

Scientific Name: Oncorhynchus tshawytscha pop. 21

EO NUM: 6

Common Name: Chinook salmon (Lower Columbia River ESU, spring run)

EO ID: 3132

Federal Status: LT

GRANK: G5T2Q

NHP List: 1

Category: Vertebrate Animal

State Status: SC

SRANK: S2

HP Track: Y

ELCODE: AFCHA0205W

Confirmed:

First Obs: 1999-PRE

EO Rank: E - Verified extant (viability not assessed)

Directions: SCAPPOOSE BAY, MULTNOMAH CHANNEL, WILLAMETTE RIVER

County Name Clackamas

Ecoregion

WV

Owner Name/Type

Watershed

17090012 - Lower Willamette

Columbia Multnomah

Town-Range Sec Note

QuadCode QuadName

Last Obs: 2009

Managed Area Name

45122-C5 Oregon City 45122-D5 Gladstone 45122-D6 Lake Oswego 45122-E6 Portland 45122-E7 Linnton 45122-F7 Sauvie Island 45122-G7 Saint Helens

Source Feature

Uncertainty Type (Distance) [Use Class]

Annual Observations

Data currently not available.

Feature ID Date

Source Observation data

Occurence Data

EO Type: REARING & MIGRATION - fish

Min. Elev.(m):

EO Data: SPRING RUN; ODFW DISTRIBUTION MAPS USED TO CREATE THE 1:24,000 COVERAGE

EO Comments: Protection:

> Management: Specimens:

General: DISTRIBUTION INFORMATION USED IN THIS EOR WAS DERIVED FROM ODFW GEOGRAPHIC RESOURCES DATA PRODUCED AND DISTRIBUTED IN 1999. UNLESS SPECIFIC DATA EXISTS IN THE DATA FIELD, THE INFORMATION PRESENTED IN THIS EOR REPRESENTS THE "BEST PROFESSIONAL JUDGMENT" BY ODFWS

DISTRICT FISHERIES BIOLOGIST; THE PRESENCE OF CHINOOK IN DESCRIBED AREAS SHOULD BE CONSIDERED UNDOCUMENTED BUT AS HAVING A POTENTIAL OF BEING PRESENT.

EO NUM: 6

EO ID: 778

Scientific Name: Oncorhynchus tshawytscha pop. 22 Common Name: Chinook salmon (Lower Columbia River ESU, fall run)

Federal Status: LT

GRANK: G5T2Q

NHP List: 1

Category: Vertebrate Animal

State Status: SC

004N001W 27 004N001W 29 004N001W 21 004N001W 20 004N001W 30 004N001W

004N002W

004N001W

003N001W

003N001W

28

36

33

04

09

SRANK: S2

HP Track: Y

ELCODE: AFCHA0205Y assessed)

0 0 1	F: 101 101			0.0 1.5 1/-:5	1 - 1 - 1 / f - 1 / H 1 -	N 18	
Confirmed: Directions:			ast Obs: 2009 E ES, WILLAMETTE RIVER 8		d extant (viability not a	ssessed)	
County Name Clackamas Columbia Multnomah	Ecoregion WV	Owner Name		<u>Watershed</u> 1709000704 - A 1709001201 - J	ABERNATHEY CREEI JOHNSON CREEK SCAPPOOSE CREEK		HANNEL
Town-Range 002S002E 30004N001W 15002S001E 11002S001E 11001S001E 25001S001E 25001S001E 25001S001E 25001N001E 25001N001E 25001N001E 25001N001E 25001N001W 15001N001W 15	5 5 3 1 6 6 6 6 2 5 5 7 1 1 9 7 2 2 6	45122-C5 45122-D5 45122-D6 45122-E6 45122-E7 45122-F7	QuadName Oregon City Gladstone Lake Oswego Portland Linnton Sauvie Island Saint Helens	Managed Area N	<u>lame</u>		
002N001W 36 002N001W 25 002N001W 26 002N001W 27 002N001W 14 002N001W 07 002N001W 07 002N001W 07 002N001W 07	4 5 3 3 1 1 4 9 7						
003N001W 35 003N001W 31 003N001W 27 003N001W 29 003N001W 25 003N002W 25 003N001W 22 003N001W 15	5 3 1 7 9 5 5 2						
003N001W 16 003N001W 10 003N001W 03 003N002W 01 004N001W 34 004N001W 31	0 3 1 4						

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003N001W
              17
 003N001W
              15
 003N001W
              20
 003N001W
              21
 003N001W
              23
 003N001W
              30
 003N001W
              28
 003N002W
              36
 003N001W
              34
 002N002W
              01
 002N001W
              04
 002N002W
              12
 002N001W
              18
 002N001W
              17
 002N001W
              20
 002N001W
              22
 002N001W
              24
 002N001W
              27
 004N001W
              10
 002N001W
              35
 002N001E
              31
 001N001E
              05
 001N001W
              11
 001N001W
              13
 001N001E
              18
 001N001E
              20
 001N001E
              28
 001N001E
              34
 001S001E
              10
 004N001W
              16
 001S001E
              27
 001S001E
              35
 002S001E
              02
 002S001E
              14
              24
 002S001E
 002S002E
              19
 002S002E
              31
Source Feature
                Uncertainty Type (Distance) [Use Class]
                                                                      Annual Observations
  Data currently not available.
 Feature ID
            <u>Date</u>
                            Source Observation data
Occurence Data
        EO Type: REARING & MIGRATION - fish
                                                                          Min. Elev.(m):
        EO Data: 2009: Classified as rearing by ODFW. Undocumented fish observation, FALL RUN; ODFW DISTRIBUTION MAPS USED TO
                CREATE THE 1:24,000 COVERAGE
   EO Comments:
      Protection:
    Management:
      Specimens:
```

Scientific Name: Oncorhynchus mykiss pop. 27

1:24,000 coverage.

EO NUM: 1

Common Name: Steelhead (Lower Columbia River ESU, winter run)

EO ID: 851

Federal Status: LT State Status: SC GRANK: G5T2Q SRANK: S2

Last Obs: 2009

NHP List: 1

General: DISTRIBUTION INFORMATION USED IN THIS EOR WAS DERIVED FROM ODFW GEOGRAPHIC RESOURCES DATA PRODUCED AND DISTRIBUTED IN 1999. UNLESS SPECIFIC DATA EXISTS IN THE DATA FIELD, THE INFORMATION PRESENTED IN THIS EOR REPRESENTS THE "BEST PROFESSIONAL JUDGMENT" BY ODFW'S DISTRICT FISHERIES BIOLOGIST; THE PRESENCE OF CHINOOK IN DESCRIBED AREAS SHOULD BE CONSIDERED UNDOCUMENTED BUT AS HAVING A POTENTIAL OF BEING PRESENT. Updated with 2009 ODFW

Category: Vertebrate Animal

HP Track: Y

ELCODE: AFCHA02132

Confirmed:

First Obs: 1999-PRE

EO Rank: E - Verified extant (viability not assessed)

Direction	s: SCAPPOOSE	BAY, MULTNOMAH CHANNEL, WILLAME	ETTE RIVER
County Name Clackamas Columbia Multnomah	Ecoregion WV	Owner Name/Type	Watershed 1709001201 - JOHNSON CREEK 1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL
Town-Range 02N001W 002N001W 002N001W 002N001W 004N001W 002N001W 002N002W 002N002W 003N001W 004N001W 004N001W 004N001W 004N001W 004N001W 004N001W 004N001W 004N001W	Sec Note 27 24 22 20 05 18 12 01 34 31 36 28 25 22 20 16 10 03 34 31 36 32 31 36 32 31	QuadCodeQuadName45122-C5Oregon City45122-D6Lake Oswego45122-E6Portland45122-E7Linnton45122-F6Vancouver45122-F7Sauvie Island45122-G7Saint Helens45122-G8Chapman	Managed Area Name
004N001W 004N001W 004N001W 004N001W 004N001W 004N001W 004N001W 004N001W 003N001W 003N001W 003N001W	25 20 16 17 19 21 30 27 33 04 09 17		
003N001W 003N001W 003N001W 005N001W 003N001W 003N001W 002N001W 002N001W 002N001W 002N001W 002N001W 002N001W 002N001W 002N001W	21 23 30 27 32 33 35 06 07 17 14 21 23 28 25		
002N001W 002N001E 001N001W 001N001E	35 31 02 06 12		

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001N001W
              13
 001N001E
              17
 001N001E
              20
 001N001E
              28
 001N001E
              34
 004N001W
              09
 001S001E
              15
 001S001E
              27
 001S001E
              35
 002S001E
              02
 002S001E
              11
 002S001E
              14
 002S001E
              24
 002S002E
              30
 002S002E
              19
 002S001E
              13
 004N001W
              10
 002S001E
              10
 001S001E
              36
 001S001E
              26
 001S001E
              22
              10
 001S001E
 001S001E
              03
 001N001E
              27
 001N001E
              21
 001N001E
              19
 001N001E
              18
 004N001W
              08
 001N001W
              11
 001N001E
              05
 002N001E
              32
 002N001W
              36
 002N001W
              34
 002N001E
              30
                                                                      Annual Observations
Source Feature
                Uncertainty Type (Distance) [Use Class]
  Data currently not available:
                            Source Observation data
            Date
```

Feature ID

Occurence Data

EO Type: REARING & MIGRATION - fish Min. Elev.(m):

EO Data: 2009: Classified as rearing by ODFW. Undocumented fish observation. <a href="https://documented-nument

TO CREATE THE 1:24,000 COVERAGE

EO Comments: Protection: Management:

Specimens:

General: DISTRIBUTION INFORMATION USED IN THIS EOR WAS DERIVED FROM ODFW GEOGRAPHIC RESOURCES

DATA PRODUCED AND DISTRIBUTED IN 1999. UNLESS SPECIFIC DATA EXISTS IN THE DATA FIELD, THE INFORMATION PRESENTED IN THIS EOR REPRESENTS THE "BEST PROFESSIONAL JUDGMENT" BY ODFW'S DISTRICT FISHERIES BIOLOGIST; THE PRESENCE OF STEELHEAD IN DESCRIBED AREAS SHOULD BE

CONSIDERED UNDOCUMENTED BUT AS HAVING A POTENTIAL OF BEING PRESENT.

EO NUM: 22 Scientific Name: Chrysemys picta EO ID: 5760 Common Name: Painted turtle

Federal Status: GRANK: G5 NHP List: 2 Category: Vertebrate Animal ELCODE: ARAAD01010 State Status: SC SRANK: S2 HP Track: Y

Confirmed: First Obs: 1939 Last Obs: 2004-04 EO Rank: A - Excellent estimated viability

Directions:

Federal Status: SOC

State Status:

Confirmed:

Category: Invertebrate Animal

ELCODE: IMBIV04020

Multnomah	Ecoregion WV	<u>Owner Name.</u> ODFW City	<u> Туре</u>	Watershed 1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL
Town-Range 002N001W 002N001E 002N001W 002N001W 001N001E 002N001E 002N001W 002N001E 002N001E 002N001E 002N001E 002N001E 001N001E 001N001E 002N001E 002N001W 002N001W	Sec Note 25 19 23 14 06 32 36 34 30 29 35 31 05 20 13 24	QuadCode 45122-E6 45122-E7 45122-F6	QuadName Portland Linnton Vancouver Sauvie Island	Managed Area Name
002N001W	26			
Source Featur		Type (Distance) [Use C		Annual Observations
24647 - Point				• 2004 - 70 • 1998 - 0
42965 - Point		, , ,		• 1995 - 1
50618 - Polyç 50620 - Point		The second secon		• 1993 - 128 • 1985 - 1
				• 1939 - collection
Feature ID	<u>Date</u>	Source Observation d		
42965	2004-04	About 70 turtles obse		
42965 24647	1999-05-23 1998			o October 5, 1999. Time Oil Ponds, T 2N, R 1W, 35. From 1999 eld by the Port of Portland.
24647	1995	1 turtle observed		
50618	1993	128 turtles observed.		
50618	1985	1 turtle observed.		
50620	1939	Historic collection.		
Occurence Da	<u>ta</u>			
EO T	Гуре:			Min. Elev.(m): 3
EO E	None found 1 PAINTED ents: ABUNDAN' permanent dominated li cattail. All p sandy soils ponds have	SUNNING LOGS & ST (1993). Site: pond covering approx. by native plants. Up to 4 onds have large woody are 90% vegetated and been planted with vario	BASING ABUNDANT Basking, nesting an acres. The seasona ft of water depth dur debris. Sandy soils tare managed for tur us native trees and	1999 (05-23 to 10-05): 209 turtles observed. 1993: 128 INDIVIDUALS OBSERVED 1983: Historic collection near mouth of Willamette River. NO OTHER TURTLE SPECIES PRESENT. BULLFROGS doverwintering habitat. Two seasonal ponds and one all ponds have 100% herbaceous cover Sept. to December, ing winter months. The permanent pond is ringed by willow and from dredging make up the upland adjacent to the ponds. The title nesting habitat. South-facing slopes leading down to the shrubs. Ponds are used by various waterfowl; grass upland is
Protec	ction: been install	ed connecting this site w	ats include adjacen ith habitat on the ot	t road and truck traffic but wildlife undercrossing has recently her side of Road. Some bullfrog present and some sted as a wetland mitigation site.<
Manager	nent:		•	
Canala	nens:			
Specin		00 B! B! (000	1). Maurita Smvth (1	998 and 1995). MARK HAYES AND DAN HOLLAND (1993)
				William; Jewett, Stanley; Gordon, Lewis (1939).
Ger	PHILLIP GA			

Mecox 33765068 00001 Project - Page 12 of 23

NHP List: 2

HP Track: Y

First Obs: 1977-02-11 Last Obs: 2004-09-10 EO Rank: E - Verified extant (viability not assessed)

GRANK: G3Q

SRANK: S2

Sensitive Data - Do Not Distribute Directions: County Name **Ecoregion** Owner Name/Type Watershed Multnomah W **ODFW** 1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL Town-Range Sec Note QuadCode QuadName Managed Area Name 002N001E 45122-E6 Portland 002N001W 36 Source Feature Uncertainty Type (Distance) [Use Class] **Annual Observations** 51129 - Point Estimated (50 m) Not applicable Source Observation data Feature ID Date 51129 2004-09-10 51129 2004-08-13 51129 2001-09-19 51129 1977-02-11

Occurence Data

009S004W

010S004W

004S001W

36

02

06

EO Type: Min. Elev.(m): 3

EO Data: 2004: Collected by Smith. 2001: Collected by Smith. 1977: Collected by Elliphrit.

EO Comments: Protection: Management: Specimens:

General: 2008 freshwater mollusk shapefile from ODFW, collector: Elliphrit and Smith, Al

EO NUM: 1 Scientific Name: Fluminicola virens EO ID: 32254 Common Name: Olympia pebblesnail

Federal Status: GRANK: G2 NHP List: 2 Category: Invertebrate Animal State Status: SRANK: S2 HP Track: Y ELCODE: IMGASG3130

Confirmed: First Obs: 1996-pre Last Obs: 1996-pre EO Rank:

Directions: Willamette River, from Corvallis to its mouth, and the lower Columbia River below Portland.

County Name **Ecoregion** Owner Name/Type Watershed Benton W 1709000302 - MUDDY CREEK Clackamas 1709000304 - OAK CREEK Linn 1709000702 - RICKREALL CREEK Marion 1709000703 - WILLAMETTE RIVER, SALEM TO NEWBERG **TRIBUTARIES** Multnomah 1709000704 - ABERNATHEY CREEK Polk 1709001201 - JOHNSON CREEK Yamhill 1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

QuadCode QuadName Town-Range Sec Note Managed Area Name 44123-E2 005S003W 01 Riverside 005S003W 11 44123-E3 Corvallis 004S003W 27 44123-F1 Albany 44123-F2 004S003W 22 Lewisburg 007S003W 44123-G1 28 Sidney 44123-G2 Monmouth 010S004W 11 004S003W 44123-H1 Salem West 14 1 44123-H2 Rickreall 007S003W 29 007S003W 45122-A8 Gervais 30 006S003W 45122-B8 Saint Paul 16 009S004W 24 45122-C5 Oregon City 009S004W 23 45122-C6 Canby 007S004W 25 45122-C7 Sherwood 009S003W 45122-C8 Newberg 18 009S004W 45122-D5 Gladstone 26 009S004W 35 45122-D6 Lake Oswego

45122-E6 Portland

45122-E7 Linnton

45122-F7 Sauvie Island

010S004W	14	45123-A1	Mission Bottom			
007S004W	36	45123-B1	Dayton			
006S003W	20	45123-C1	Dundee			
007S003W	31					
005S003W	26					
010S003W	29					
004S003W	35					
009S004W	13					
007S003W	22					
006S003W	09					
005S003W	24					
009S003W	08					
009S003W	07					
007S003W	21					
009S003W	05					
009S003W	06					
007S003W	15					
006S003W	04					
009S004W	01					
008S004W	36					
007S003W	10					
003S001E	10					
008S004W	35					
003S001E	02					
012S005W	02					
008S004W	34					
003S001E	15					
003S001W	23					
003S001E	19					
003S001E	21					
003S001E	23					
003S002W	29					
003S001W	28					
003S001E	27					
003S002W	31					
003S002W	33					
003S002W	35					
003S001W	32					
004S002W	02					
004S003W	12					
004S003W	15					
004S003W	13					
004S003W 004S003W	23 26					
004S003VV	36					
004S003VV	03					
005S003W	35					
005S003W	13					
011S005W	36					
011S005W	35					
008S004W	33					
011S004W	28					
011S004W	29					
005S003W	02					
008S004W	28					
007S003W	04					
011S004W	30					
011S005W	25					
008S004W	23					
010S004W	13					
011S004W	21					
010S004W	24					
011S004W	20					
008S004W	22	12 V.	20705000 00001	Project - Page 14 of 23		
		Ma	COV 33765068 00001	Project - Page 14 of 23		

010S004W 25 010S003W 30 006S003W 21 006S003W 33 008S004W 01 010S003W 32 005S003W 34 011S004W 16 011S004W 10 008S004W 21 011S004W 09 001N001W 12 001N001W 11 011S003W 05 008S004W 14 006S003W 32 001N001W 02 001N001W 13 001N001E 18 001N001E 19 001N001E 20 001N001E 21 001N001E 28 001N001E 27 001N001E 34 001S001E 03 001S001E 10 001S001E 15 001S001E 22 001S001E 27 26 001S001E 001S001E 35 002S001E 02 002S001E 11 002S001E 14 002S001E 13 002S001E 24 002S002E 19 002S002E 30 002S001E 36 002S002E 31 002N001W 35 003S001E 01 011S003W 06 003S001E 11 002N001W 34 22 003S001W 27 002N001W 003S001W 24 011S004W 01 003S001E 20 008S004W 12 003S001E 22 002N001W 23 003S002W 30 002N001W 22 003S001W 29 011S004W 02 003S001W 27 002N001W 13 36 003S003W 002N001W 14 003S002W 32 011S004W 03

003S002W 008S004W 11 003S001W 31 006S003W 29 004S003W 01 005S003W 25 004S002W 01 005S003W 14 005S003W 10

Uncertainty Type (Distance) [Use Class] Source Feature 55506 - Point

Linear (8 m) Not applicable Not applicable Linear (8 m)

55507 - Point 55505 - Point Not applicable Linear (8 m) 55508 - Point Linear (8 m) Not applicable

Feature ID Date Source Observation data

Occurence Data

EO Type: Min. Elev.(m):

EO Data: Five occurences along the Willamette River (from Portland to Corvallis), as described by Hershler and Frest, 1996. Precise

Annual Observations

locations and collection dates not reported.

EO Comments: Protection: Management:

Specimens:

General: 5 snails collected along Willamette, as described by Hershler and Frest, 1996.

Scientific Name: Fisherola nuttalli

EO NUM: 3 EO ID: 20861 Common Name: Shortface lanx (=Giant Columbia River limpet)

Federal Status: GRANK: G2 NHP List: 1 Category: Invertebrate Animal ELCODE: IMGASL6010 State Status: SRANK: S1S2 HP Track: Y

Confirmed: First Obs: 1982 Last Obs: 1985 EO Rank: D - Poor estimated viability

Directions: COLUMBIA RIVER, NEAR PORTLAND

County Name Ecoregion Owner Name/Type Watershed

WV Multnomah STATE 1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

QuadCode QuadName Town-Range Sec Note Managed Area Name

45122-E6 Portland 002N001E 35

Uncertainty Type (Distance) [Use Class] Annual Observations Source Feature

20861 - Point Estimated (8050 m) Not applicable

Feature ID Date Source Observation data

Occurence Data

EO Type: Min. Elev.(m): 5

EO Data: SAMPLED BY FREST '88 - POPULATION MAY BE EXTINCT. TAYLOR OBSERVED IN '82 AND '85.

EO Comments: STREAM SIZE EVIDENTLY NOT A FACTOR IF IT IS RELATIVELY UNPOLLUTED, COLD AND WELL OXYGENATED,

WITH PERMANENT FLOW AND A COBBLE-BOULDER SUBSTRATE; THESE CONDITIONS OCCUR IN RAPIDS.

Protection: Management: Specimens:

State Status:

General: SURVEY OF COLUMBIA RIVER BASIN STREAMS FOR GIANT COLUMBIA RIVER SPIRE SNAIL AND GREAT

COLUMBIA RIVER LIMPET, PACIFIC NW LABORATORY 10-89.

Scientific Name: Zizia aptera

EO NUM: 2 EO ID: 12522

Common Name: Golden alexanders Federal Status:

GRANK: G5 NHP List: 3 Category: Vascular Plant ELCODE: PDAPI2F010 SRANK: SNR HP Track: Y

Mecox 33765068.00001 Project - Page 16 of 23

County C	Confirm Direction		First Obs:		Last Obs: 1877-06	EO	Rank:	
Town-Range Sec Note QuardCode Astro-Processing Astro-Processing Count Astro-Processing	County Name Columbia		<u>Ecoregion</u>		<u>те∕Туре</u>			/MULTNOMAH CHANNEL
002H001W 17		Sec	Note	QuadCod	e QuadName		Managed Area Name	
002H001VV 15 45122-G7 Saint Helens 002H001VV 15 002H001VV 27 002H001VV 27 004H001VV 22 002H001VV 34 002H001VV 22 002H001VV 22 002H001VV 34 002H001VV 34 002H001VV 16 002H001VV 16 002H001VV 16 002H001VV 16 002H001VV 16 002H001VV 18 002H001VV 18 002H001VV 18 002H001VV 10 003H001VV 34 003H001VV 32 003H001VV 10								
0224001VV 15 0224001VV 27 0044001VV 27 0044001VV 20 0044001VV 20 0044001VV 20 0044001VV 20 0024001VV 20 0024001VV 20 0024001VV 21 00224001VV 21 00224001VV 21 00224001VV 16 00224001VV 16 00224001VV 17 00224001VV 10 0024001VV 10 0024001VV 10 0024001VV 10 00224001VV 10 0024001VV 20 0024001VV 30 0024001VV 3	002N001W	17		45122-F7	Sauvie Island			
0224001W 20 0244001W 23 0254001W 23 0264001W 21 0264001W 21 0264001W 20 0264001W 20 0264001W 20 0264001W 20 0264001W 20 0264001W 20 0264001W 21 0264001W 21 0264001W 21 0264001W 21 0264001W 21 0264001W 21 0264001W 31 0264001W 31 0264001W 31 0264001W 31 0264001W 31 0264001W 31 0264001W 32 0264001W 32 0264001W 32 0264001W 33 0264001W 35 0264001W 35 0264001W 36 0264001W 36 0264001W 37 0264001W 36 0264001W 37 0264001W 36 0264001W 37 0264001W 37 0264001W 38	002N001W	15		45122-G	7 Saint Helens			
DOANDOT 15	002N001W							
002N001WW 23 002N001WW 21 004N001WW 22 004N001WW 28 002N001WW 28 002N001WW 21 002N001WW 16 002N001WW 16 002N001WW 16 002N001WW 16 002N001WW 02 002N001WW 02 002N001WW 02 002N001WW 03 003N001WW 04 003N001WW 04 003N001WW 02 003N001WW 02 003N001WW 03 003N001WW 04 004N001WW 04 003N001WW 02 003N001WW 04 004N001WW 02 003N001WW 02 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
002N001W 27 004N001W 28 002N001W 28 002N001W 28 002N001W 29 002N001W 14 002N001W 16 002N001W 16 002N001W 10 002N001W 10 002N001W 10 002N001W 10 002N001W 35 002N001W 36 002N001W 36 002N001W 37 002N001W 37 002N001W 07 002N001W 07 002N001W 08 003N001W 35 003N001W 35 003N001W 36 003N001W 37 003N001W 39 003N001W 30								
004N001W 21 004N001W 22 004N001W 23 002N001W 28 002N001W 21 002N001W 14 002N001W 16 002N001W 16 002N001W 16 002N001W 16 002N001W 10 004N001W 20 002N001W 20 002N001W 20 002N001W 20 002N001W 20 003N001W 20 003N001W 20 003N001W 34 003N001W 35 003N001W 36 003N001W 36 003N001W 37 003N001W 20 003N001W 30 003N001W 30 003N001W 30								
004N001W 20 002N001W 34 002N001W 22 002N001W 21 002N001W 14 002N001W 16 002N001W 10 002N001W 10 002N001W 10 002N001W 10 002N001W 07 002N001W 07 002N001W 07 002N001W 08 002N001W 08 002N001W 09 003N001W 09 003N001W 35 003N001W 20 003N001W 20 003N001W 21 003N001W 22 003N001W 23 003N001W 24 003N001W 25 003N001W 26 003N001W 27 003N001W 28 003N001W 29 003N001W 20 003N001W 21 003N001W 22 003N001W 23 003N001W 24 003N001W 25 003N001W 26 003N001W 27 003N001W 27 003N001W 28 003N001W 29 003N001W 20 003N001W 31 003N001W 32 003N001W 32 003N001W 33 003N001W 34 003N001W 35 003N001W 36 003N001W 37 003N001W 38 003N001W 38 003N001W 39 003N001W 30								
002N001W		22						
002N001W	004N001W	20						
002N001W 28 002N001W 21 002N001W 14 002N001W 18 002N001W 18 002N001W 16 002N001W 02 002N001W 02 002N001W 04 002N001W 04 002N001W 04 003N001W 05 003N001W 04 003N001W 05 003N001W 04 003N001W 05 003N001W 06 003N001W 07 003N001W 07 003N001W 07 003N001W 07 003N001W 08 003N001W 09 003N001W								
002N001W 21 002N001W 14 002N001W 16 002N001W 10 002N001W 10 002N001W 10 002N001W 10 002N001W 07 002N001W 07 002N001W 08 002N001W 08 002N001W 08 003N001W 08 003N001W 08 003N001W 09 003N001W 10 003N001W 11 003N001W 08 003N001W 09 003N001W 10 003N001W 20 003N001W 30 003N001W 30								
002N001VV 14 002N001VV 16 002N001VV 18 002N001VV 16 004N001VV 07 002N001VV 07 002N001VV 08 003N001VV 08 003N001VV 29 003N001VV 29 003N001VV 29 003N001VV 14 003N001VV 20 003N001VV 14 003N001VV 14 003N001VV 15 003N001VV 16 003N001VV 17 003N001VV 18 003N001VV 18 003N001VV 29 003N001VV 14 003N001VV 29 003N001VV 29 003N001VV 16 003N001VV 17 003N001VV 18 003N001VV 19 003N001VV 19 003N001VV 19 003N001VV 29 003N001VV 39 003N001VV 30 003N0								
002N001W 16 002N001W 18 002N001W 10 002N001W 07 002N001W 07 002N001W 02 002N001W 04 002N001W 05 003N001W 05 003N001W 05 003N001W 07 003N00	002N001W							
002N001W 18 002N001W 10 002N001W 07 002N001W 02 002N001W 04 002N001W 35 003N001W 36 003N001W 27 003N001W 28 003N001W 29 004N001W 20 003N001W 20 003N001W 16 003N001W 16 003N001W 10 003N001W 20 003N001W 10 003N001W 34 003N001W 16 003N001W 16 003N001W 10 003N001W 20 003N001W 34 004N001W 34 004N001W 34 004N001W 35 004N001W 36 004N001W 36 004N001W 36 004N001W 36 003N001W 19 003N001W		14						
002M001W 16 002M001W 07 002M001W 02 002M001W 08 002M001W 35 003M001W 32 003M001W 27 003M001W 29 004M001W 20 003M001W 22 003M001W 20 003M001W 16 003M001W 16 003M001W 10 003M001W 20 003M001W 10 003M001W 34 004M001W 33 004M001W 33 004M001W 36 003M001W 17 003M001W 19 003M001W 21 003M001W 28 003M001W 28 003M001W 28 003M001W 28 003M001W 28 003M001W 30 003M001W 26 003M001W 31 003M001W	002N001W	16						
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002N001W 07 002N001W 04 002N001W 06 003N001W 34 003N001W 32 003N001W 27 003N001W 29 003N001W 22 003N001W 20 003N001W 20 003N001W 14 003N001W 16 003N001W 10 003N001W 10 003N001W 20 003N001W 10 003N001W 34 004N001W 33 004N001W 38 003N001W 30 003N001W	002N001W	10						
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002N001W 04 002N001W 35 003N001W 34 003N001W 36 003N001W 27 003N001W 29 004N001W 20 003N001W 20 003N001W 14 003N001W 11 003N001W 10 003N001W 10 003N001W 10 003N001W 27 004N001W 28 004N001W 35 004N001W 35 004N001W 36 003N001W 19 003N001W 19 003N001W 21 003N001W 28 003N001W 29 003N001W 30 003N001W 21 003N001W 28 003N001W 28 003N001W 30 003N001W 29 003N001W 20 003N001W 30 003N001W	002N001W	07						
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002N001W 06 003N001W 35 003N001W 32 003N001W 27 003N001W 29 004N001W 22 003N001W 20 003N001W 16 003N001W 10 003N001W 02 003N001W 02 003N001W 04 004N001W 34 004N001W 38 004N001W 33 004N001W 36 003N001W 30 003N001W 36 003N001W 30 003N001W 30 003N001W 30 003N001W 30 003N001W 31 003N001W	002N001W	04						
003N001W 35 003N001W 32 003N001W 27 003N001W 29 004N001W 20 003N001W 20 003N001W 14 003N001W 16 003N001W 10 003N001W 10 003N001W 04 004N001W 27 004N001W 28 004N001W 28 004N001W 03 003N001W 09 003N001W 15 003N001W 19 003N001W 23 003N001W 23 003N001W 23 003N001W 23 003N001W 26 003N001W 26 003N001W 31 003N001W 33 004N001W 33 004N001W 31 003N001W 33 004N001W 33 004N001W 31 003N001W 30		06						
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003N001W 04 004N001W 27 004N001W 28 004N001W 33 004N001W 35 003N001W 03 003N001W 09 003N001W 17 003N001W 15 003N001W 19 003N001W 21 003N001W 21 003N001W 21 003N001W 23 003N001W 21 003N001W 23 003N001W 24 003N001W 25 003N001W 26 003N001W 28 003N001W 28 003N001W 28 003N001W 26 003N001W 31 003N001W 31 003N001W 31 003N001W 33	003N001W	10						
004N001W 34 004N001W 28 004N001W 33 004N001W 35 003N001W 03 003N001W 17 003N001W 15 003N001W 19 003N001W 21 003N001W 21 003N001W 23 003N001W 23 003N001W 21 003N001W 23 003N001W 23 003N001W 30 003N001W 30 003N001W 30 003N001W 28 003N001W 28 003N001W 26 003N001W 31 003N001W 31 003N001W 31 003N001W 33	003N001W	02						
004N001W 28 004N001W 33 004N001W 35 003N001W 03 003N001W 17 003N001W 15 003N001W 19 003N001W 21 003N001W 23 003N001W 23 003N001W 23 003N001W 23 003N001W 28 003N001W 28 003N001W 28 003N001W 28 003N001W 28 003N001W 28 003N001W 31 003N001W 31 003N001W 33 004N001W 10		04						
004N001W 28 004N001W 35 003N001W 03 003N001W 09 003N001W 17 003N001W 15 003N001W 19 003N001W 21 003N001W 23 003N001W 23 003N001W 23 003N001W 28 003N001W 28 003N001W 28 003N001W 28 003N001W 28 003N001W 28 003N001W 31 003N001W 31 003N001W 33 004N001W 10								
004N001W 33 004N001W 03 003N001W 09 003N001W 17 003N001W 15 003N001W 21 003N001W 23 003N001W 30 003N001W 28 003N001W 26 003N001W 31 003N001W 33 004N001W 10								
004N001W 35 003N001W 09 003N001W 17 003N001W 15 003N001W 21 003N001W 23 003N001W 30 003N001W 28 003N001W 26 003N001W 31 003N001W 33 004N001W 10								
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003N001W 09 003N001W 17 003N001W 15 003N001W 21 003N001W 23 003N001W 30 003N001W 28 003N001W 26 003N001W 31 003N001W 33 004N001W 10								
003N001W 17 003N001W 15 003N001W 19 003N001W 21 003N001W 30 003N001W 28 003N001W 26 003N001W 31 003N001W 33 004N001W 10								
003N001W 15 003N001W 21 003N001W 23 003N001W 30 003N001W 28 003N001W 26 003N001W 31 003N001W 33 004N001W 10								
003N001W 19 003N001W 21 003N001W 23 003N001W 30 003N001W 28 003N001W 26 003N001W 31 003N001W 33 004N001W 10								
003N001W 21 003N001W 23 003N001W 30 003N001W 28 003N001W 26 003N001W 31 003N001W 33 004N001W 10								
003N001W 23 003N001W 30 003N001W 28 003N001W 26 003N001W 31 003N001W 33 004N001W 10								
003N001W 30 003N001W 28 003N001W 26 003N001W 31 003N001W 33 004N001W 10								
003N001W 28 003N001W 26 003N001W 31 003N001W 33 004N001W 10								
003N001W 26 003N001W 31 003N001W 33 004N001W 10								
003N001W 31 003N001W 33 004N001W 10								
003N001W 33 004N001W 10								
004N001W 10								
	004N001VV	01						

Oregon Biodiversity Information Center - February 2015 Sensitive Data - Do Not Distribute 002N001W 002N001W 03 002N002W 12 002N001W 80 002N001W Source Feature Uncertainty Type (Distance) [Use Class] **Annual Observations** 43435 - Polygon Delimited (8 m) Feature ID <u>Date</u> Source Observation data Occurence Data EO Type: Min. Elev.(m): EO Data: HERBARIUM COLLECTION. EO Comments: COPSES ON DRY GROUNDS. Protection: Management: Specimens: HOWELL (s.n.). 6-1877. OSC. General: 2004-08 Non-specific point changed to a digitized Sauvie Island polygon. HERBARIUM COLLECTION, 1995 NOTE FROM SCOTT SUNDBERG AT OSU. [TRS MAPPED BY ORNHP] EO NUM: 6 Scientific Name: Howellia aquatilis EO ID: 12483 Common Name: Howellia Federal Status: LT **GRANK: G3** NHP List: 1 Category: Vascular Plant HP Track: Y SRANK: S1 ELCODE: PDCAM0A010 State Status: LT EO Rank: H - Historical Confirmed: Y First Obs: 1879 Last Obs: 1886-05 Directions:

AUDIE (J. HOWELL #187) AND PONDS IN STAGNANT WATER. County Name **Ecoregion** Owner Name/Type Watershed Columbia W 1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL Multnomah QuadCode QuadName Managed Area Name Town-Range Sec Note 004N001W 22 45122-E7 Linnton 004N001W 45122-F7 Sauvie Island 20 002N001W 45122-G7 Saint Helens 34 002N001W 28 002N001W 22 002N001W 21 002N001W 14 002N001W 16 002N001W 18 002N001W 10 004N001W 16 002N001W 07 002N001W 02

002N001W

002N001W

003N001W

003N001W

003N001W

003N002W

003N001W

003N001W

004N001W

003N001W

003N001W

003N001W

003N001W

003N001W

003N001W

003N001W

003N001W

04

06

35

34

32

36

27

29

03

22

20

14

16

11

10

02

04

W

Multnomah

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004N001W
  004N001W
              27
  004N001W
              28
  004N001W
              33
  004N001W
              35
  003N001W
              03
  003N001W
              09
  003N001W
              17
  003N001W
              15
  003N001W
              19
  003N001W
              21
  003N001W
              23
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              30
  003N001W
              28
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              26
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              31
  003N001W
              33
  004N001W
              10
  002N002W
              01
  002N001W
              05
  002N001W
              03
  002N002W
              12
  002N001W
              08
  002N001W
              09
  002N001W
              11
  002N001W
              17
  002N001W
              15
  002N001W
              20
  004N001W
              15
  002N001W
              23
  002N001W
              27
  004N001W
                 Uncertainty Type (Distance) [Use Class]
                                                                       Annual Observations
Source Feature
43436 - Polygon
                  Delimited (8 m)
 Feature ID
                            Source Observation data
             Date
Occurence Data
        EO Type:
                                                                           Min. Elev.(m): 23
        EO Data: HERBARIUM COLLECTION: HOWELL, 5-1886, OSC; HENDERSON, #592, 5-9-1885, OSC; J. HOWELL AND T. HOWELL, S.N.,
                 5-1881, WTU, GH; J. HOWELL, S.N., 8-10-1879, GH; J. HOWELL, #187, 5-1879, GH
   EO Comments: PONDS. IN STAGNANT WATER (J. HOWELL, #187).
       Protection:
    Management:
      Specimens: HOWELL, 5-1886, OSC.
                 HENDERSON (#592). 5-9-1885. OSC
                 J. HOWELL AND T. HOWELL (S.N.). 5-1881. WTU, GH
                 J. HOWELL (S.N.). 8-10-1879. GH
                 J. HOWELL (#187). 5-1879, GH
        General: 2004-08 Non-specific point changed to a digitized Sauvie Island polygon. TYPE LOCALITY. RELOCATION EFFORTS
                 UNSUCCESSFUL.
                                                                                                           EO NUM: 7
  Scientific Name: Rotala ramosior
                                                                                                             EO ID: 27208
  Common Name: Toothcup
   Federal Status:
                                                            NHP List: 2
                                                                                             Category: Vascular Plant
                                    GRANK: G5
     State Status:
                                    SRANK: S2
                                                            HP Track: Y
                                                                                             ELCODE: PDLYT0B030
      Confirmed:
                      First Obs: 1915-09-30 Last Obs: 1915-09-30
                                                                  EO Rank:
       Directions: Columbia River
County Name
                                   Owner Name/Type
                 Ecoregion
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1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range						
	Sec	Note	<u>QuadCode</u>	QuadName	Managed Area Name	
002N001E	33		45122-E6	Portland		
002N001E	31		45122-F6	Vancouver		
002N001E	29					
002N001E	19					
001N001E	15					
001N001E	17					
001N001E	09					
001N001E	07					
001N001E	03					
001N001E	06					
002N001E	34					
001N001E	05					
001N001E	04					
001N001E	02					
001N001E	80					
001N001E	10					
001N001E	11					
001N001E	16					
002N001E	30					
	28					
002N001E						
002N001E	32					
ource Feature	e	Uncertainty Type	(Distance) [Use	Class1	Annual Observations	
4126 - Point		Estimated (400			• 1915 -	
+120 1 OIII		Lotimated (400	, o m,		1010	
eature ID	Date	Sou	urce Observation	data		
EO Comm	ents:	Plants found Bars and edges o	of ponds.		Min. Elev.(m):	
EO Commo Protec Managen Specim	Data: nents: ction: ment: nens:	Bars and edges of Flinn, M.A. (s.n.)). 9-30-1915. ORI			
EO Commo Protec Managen Specim Gen	Data: eents: ection: ment: mens: neral:	Bars and edges of Flinn, M.A. (s.n.) Herbarium collec). 9-30-1915. ORI tion. Annotated b			FO NUM: 12
EO Comme Protec Managen Specim Gen	Data: ents: etion: ment: nens: neral:	Bars and edges of Flinn, M.A. (s.n.) Herbarium collected Sullivantia ore). 9-30-1915. ORI tion. Annotated b egana			EO NUM: 12
EO Commo Protec Managen Specim Gen	Data: ents: etion: ment: nens: neral:	Bars and edges of Flinn, M.A. (s.n.) Herbarium collec). 9-30-1915. ORI tion. Annotated b egana			EO NUM: 12 EO ID: 6216
EO Commo Protec Managen Specim Gen	Data: ents: ction: ment: nens: neral: ame: ame:	Bars and edges of Flinn, M.A. (s.n.) Herbarium collected Sullivantia ore Oregon sulliva). 9-30-1915. ORI tion. Annotated b egana	by Halse 1994.		
EO Comme Protect Managen Specim Gen Scientific Na Common Na Federal Sta	Data: pents: ction: ment: nens: neral: ame: ame: atus:	Flinn, M.A. (s.n.) Herbarium collec Sullivantia ore Oregon sulliva). 9-30-1915. ORI tion. Annotated b egana antia GRANK: G	by Halse 1994.	NHP List: 1	EO ID: 6216 Category: Vascular Plant
EO Comme Protect Managen Specim Gen Scientific Na Common Na Federal State State State	Data: pents: petion: ment: ment: meral: ame: ame: atus: patus:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C). 9-30-1915. ORI tion. Annotated b egana antia GRANK: G SRANK: SZ	2 2	NHP List: 1 HP Track: Y	EO ID: 6216
EO Common Protect Managen Specim Gen Scientific Na Common Na Federal Sta State Sta Confirm	Data: pents: ction: ment: mens: neral: ame: atus: atus: med:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:). 9-30-1915. ORI tion. Annotated b egana antia GRANK: G SRANK: SZ	by Halse 1994.	NHP List: 1 HP Track: Y	EO ID: 6216 Category: Vascular Plant
EO Comme Protect Managen Specim Gen Scientific Na Common Na Federal Sta	Data: pents: ction: ment: mens: neral: ame: atus: atus: med:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:). 9-30-1915. ORI tion. Annotated b egana antia GRANK: G SRANK: SZ	2 2	NHP List: 1 HP Track: Y	EO ID: 6216 Category: Vascular Plant
Scientific Na Common Na Federal State State Confirm Directi	Data: pents: ction: ment: mens: neral: ame: atus: atus: med: tions:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	egana antia GRANK: G: SRANK: S2	2 2 2.ast Obs: 1887-	NHP List: 1 HP Track: Y EO Rank: U - Unrankable	EO ID: 6216 Category: Vascular Plant
EO Comme Protect Managen Specim Gen Scientific Na Common Na Federal Sta State Sta Confire Directi	Data: pents: ction: ment: mens: neral: ame: atus: atus: med: tions:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:). 9-30-1915. ORI tion. Annotated b egana antia GRANK: G SRANK: SZ	2 2 2.ast Obs: 1887-	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed	EO ID: 6216 Category: Vascular Plant ELCODE: PDSAX0X020
EO Comme Protect Managen Specim Gen Scientific Na Common Na Federal Sta State Sta Confire Directi County Name Columbia	Data: pents: ction: ment: mens: neral: ame: atus: atus: med: tions:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	egana antia GRANK: G: SRANK: S2	2 2 2.ast Obs: 1887-	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed	EO ID: 6216 Category: Vascular Plant
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Scientific Na Common Na Federal State State State County Name Columbia Multnomah	Data: pents: ction: ment: mens: neral: ame: atus: atus: med: tions:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	o. 9-30-1915. ORI tion. Annotated b egana antia GRANK: G: SRANK: SI 1887 L	2 2 2.ast Obs: 1887-	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed	EO ID: 6216 Category: Vascular Plant ELCODE: PDSAX0X020
EO Comming Protect Managen Specim Gen Scientific National Common National State Stat	Data:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	o. 9-30-1915. ORI tion. Annotated b egana antia GRANK: G: SRANK: SI 1887 L	2 2 2 ast Obs: 1887-e/Type	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed 1709001202 - SCAPP	EO ID: 6216 Category: Vascular Plant ELCODE: PDSAX0X020
EO Commine Protect Managen Specim Gen Scientific Na Common Na Federal St. State St. Confirm Direct County Name Columbia Multnomah	Data:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	o. 9-30-1915. ORI tion. Annotated be egana antia GRANK: G SRANK: S 1887 L Owner Nam	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed 1709001202 - SCAPP	EO ID: 6216 Category: Vascular Plant ELCODE: PDSAX0X020
Scientific Na Common Na Federal State Sta Confirm Direction County Name Columbia Multnomah Down-Range D04N001W	Data:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	Owner Nam QuadCode 45122-F7	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed 1709001202 - SCAPP	EO ID: 6216 Category: Vascular Plant ELCODE: PDSAX0X020
Scientific National Common Nat	Data:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	Owner Nam QuadCode 45122-F7	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed 1709001202 - SCAPP	EO ID: 6216 Category: Vascular Plant ELCODE: PDSAX0X020
Scientific National Common Nat	Data:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	Owner Nam QuadCode 45122-F7	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed 1709001202 - SCAPP	EO ID: 6216 Category: Vascular Plant ELCODE: PDSAX0X020
EO Comme Protect Managen Specim Gen Scientific Na Common Na Federal State State State State State Confirm Directi County Name Columbia Multnomah County Name Columbia Multnomah County Name Columbia Multnomah County Name County Name Cou	Data:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	Owner Nam QuadCode 45122-F7	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed 1709001202 - SCAPP	EO ID: 6216 Category: Vascular Plant ELCODE: PDSAX0X020
Scientific National Common Nat	Data:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	Owner Nam QuadCode 45122-F7	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed 1709001202 - SCAPP	EO ID: 6216 Category: Vascular Plant ELCODE: PDSAX0X020
Scientific National Common Nat	Data:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	Owner Nam QuadCode 45122-F7	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed 1709001202 - SCAPP	EO ID: 6216 Category: Vascular Plant ELCODE: PDSAX0X020
Scientific National Common Nat	Data:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	Owner Nam QuadCode 45122-F7	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed 1709001202 - SCAPP	EO ID: 6216 Category: Vascular Plant ELCODE: PDSAX0X020
Scientific National Common Nat	Data:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	Owner Nam QuadCode 45122-F7	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed 1709001202 - SCAPP	EO ID: 6216 Category: Vascular Plant ELCODE: PDSAX0X020
Scientific National Common Nat	Data:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	Owner Nam QuadCode 45122-F7	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed 1709001202 - SCAPP	EO ID: 6216 Category: Vascular Plant ELCODE: PDSAX0X020
Scientific National Common Nat	Data:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	Owner Nam QuadCode 45122-F7	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed 1709001202 - SCAPP	EO ID: 6216 Category: Vascular Plant ELCODE: PDSAX0X020
EO Comme Protect Managen Specim Gen Scientific Na Common Na Federal State State State Confirm Directi County Name Columbia Multnomah Town-Range 004N001W 002N001W	Sec 22 20 34 28 22 21 14 16 18 10 16	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	Owner Nam QuadCode 45122-F7	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed 1709001202 - SCAPP	EO ID: 6216 Category: Vascular Plant ELCODE: PDSAX0X020
Scientific National Common National Nat	Data:	Flinn, M.A. (s.n.) Herbarium collect Sullivantia ore Oregon sulliva SOC C First Obs:	Owner Nam QuadCode 45122-F7	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	NHP List: 1 HP Track: Y EO Rank: U - Unrankable Watershed 1709001202 - SCAPP	EO ID: 6216 Category: Vascular Plant ELCODE: PDSAX0X020

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002N001W
             04
 002N001W
             06
 003N001W
             35
 003N001W
             34
 003N001W
             32
 003N002W
             36
 003N001W
             27
 003N001W
             29
 004N001W
             03
 003N001W
             22
 003N001W
             20
 003N001W
             14
 003N001W
             16
 003N001W
             11
 003N001W
             10
 003N001W
             02
 003N001W
             04
 004N001W
             34
 004N001W
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             28
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             33
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             01
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             05
 002N001W
             03
 002N002W
             12
 002N001W
             80
 002N001W
             09
 002N001W
             11
 002N001W
             17
 002N001W
             15
 002N001W
             20
 004N001W
             15
 002N001W
             23
 002N001W
             27
 004N001W
             21
                                                                  Annual Observations
Source Feature
               Uncertainty Type (Distance) [Use Class]
43434 - Polygon
                 Delimited (8 m)
                          Source Observation data
 Feature ID Date
Occurence Data
                                                                      Min. Elev.(m):-339
       EO Data: HERBARIUM COLLECTION: JOSEPH HOWELL, 1887, G. (ASSUMED TO BE GRAY HERBARIUM)
   EO Comments:
      Protection:
    Management:
      Specimens: HOWELL, JOSEPH. 1887. G. [GH? ASSUMED TO BE GRAY HERBARIU!
```

Mecox 33765068.00001 Project - Page 21 of 23

General: 2004-08 Non-specific point changed to a digitized Sauvie Island polygon. FROM ROSENDAHL, C.O. 1927. REVISION OF THE GENUS SULLIVANTIA. MINN STUD. PLANT SCI 6:407

Scientific Name: Carex comosa

EO NUM: 4

Common Name: Bristly sedge

EO ID: 21506

Federal Status:

GRANK: G5 SRANK: S1

45122-E7

45122-F7

QuadCode QuadName

45122-G7 Saint Helens

Linnton

Sauvie Island

NHP List: 2

Category: Vascular Plant

State Status:

HP Track: Y

ELCODE: PMCYP032Y0

Confirmed:

First Obs: 1882-06

Last Obs: 1884-06-05 EO Rank: H - Historical

Directions: 3

County Name Columbia Multnomah

Ecoregion Owner Name/Type Watershed

1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

Town-Range Sec Note 003N001W 02 003N001W 04 004N001W 34

004N001W 27 004N001W 28

004N001W 33 004N001W 35

003N001W 03 003N001W 09 003N001W 17

003N001W 15 003N001W 19 003N001W 21

003N001W 23 003N001W 30 003N001W 28

003N001W 26 003N001W 31 003N001W 33

004N001W 10 002N002W 01

002N001W 05 002N001W 03

002N002W 12 002N001W 08 002N001W 09

002N001W 11 002N001W 17

002N001W 15 20 002N001W 004N001W 15

002N001W 23 002N001W 27

004N001W 21 004N001W 22

004N001W 20 002N001W 34 002N001W 28

002N001W 22 002N001W 21

002N001W 14 002N001W 16 002N001W 18

002N001W 10 004N001W 16

002N001W 07 002N001W 02 002N001W 04

002N001W 06

Managed Area Name

Key to Oregon Biodiversity Information Center Data

Field Name	Description				
Scientific Name	The scientific name of the species.				
Common Name	The common name of the species.				
Category	Value that indicates the broad biological category for each species.				
Unique NatureServe code for identifying this element. 1st and 2nd byte (PD=Plant PM=Plant monocot, PG=Plant gymnosperm, PP=Plant pteridophyte, AA=amphibia AF=fish, AM=mammal, AR=reptile, I=invertebrate. 3rd-5th byte (family abbreviation (genus code). 8th-9th (species). 10th (tie breaker).					
Federal Status	US Fish and Wildlife Service or NOAA Fisheries status. LE=listed endangered, LT=listed threatened, PE or PT=proposed endangered or threatened, C=candidate for listing with enough information available for listing, SOC or SC=species of concern, PS:xx=partial status for species.				
State Status	For animals, Oregon Department of Fish and Wildlife status; LE=listed endangered, PE=proposed endangered, PT=proposed threatened, SC or C=sensitive-critical, SV or V=sensitive-vulnerable, SP or P=sensitive-peripheral, SU or U=sensitive-undetermined status. For plants, Oregon Department of Agriculture status; LE=listed endangered, LT=listed threatened, C=candidate.				
GRANK/SRANK	ORNHIC participates in an international system for ranking rare, threatened and endangered species throughout the world. The system was developed by The Nature Conservancy and is now maintained by NatureServe in cooperation with Heritage Programs or Conservation Data Centers (CDCs) in all 50 states, in 4 Canadian provinces, and in 13 Latin American countries. The ranking is a 1-5 scale, primarily based on the number of known occurrences, but also including threats, sensitivity, area occupied, and other biological factors. In this book, the ranks occupy two lines. The top line is the Global Rank and begins with a "G". If the taxon has a trinomial (a subspecies, variety or recognized race), this is followed by a "T" rank indicator. A "Q" at the end of this line indicates the taxon has taxonomic questions. The second line is the State Rank and begins with the letter "S". The ranks are summarized as follows: 1 = Critically imperiled because of extreme rarity or because it is somehow especially vulnerable to extinction or extirpation, typically with 5 or fewer occurrences; 2 = Imperiled because of rarity or because other factors demonstrably make it very vulnerable to extinction (extirpation), typically with 6-20 occurrences; 3 = Rare, uncommon or threatened, but not immediately imperiled, typically with 21-100 occurrences; 4 = Not rare and apparently secure, but with cause for long-term concern, usually with more than 100 occurrences; 5 = Demonstrably widespread, abundant, and secure; H = Historical Occurrence, formerly part of the native biota with the implied expectation that it may be rediscovered; X = Presumed extirpated or extinct; U = Unknown rank; ? = Not yet ranked, or assigned rank is uncertain.				
NHP list	All rare species in Oregon are assigned a list number of 1, 2, 3 or 4, where 1=threatened or endangered throughout range, 2=threatened or endangered in Oregon but more common elsewhere, 3=Review List (more information is needed), 4=Watch List (currently stable). A null value indicates the species is not currently on our rare species list.				
HP Track	We currently obtain and computerize locational information for only those elements marked with $\mathbf{Y}(es)$. Those species marked with $\mathbf{N}(o)$ or $\mathbf{W}(atch)$ have incomplete data as we do not actively track them at this time.				
EO NUM	The number of the Element Occurrence (EO) for this species. An element occurrence is an area of land or water where the species is or was known to occur and has conservation value. EOs are the main tracking unit for Heritage Programs.				
EO ID	Unique identifier for the Element Occurrence (EO). Unique for each occurrence in the database.				
First_obs	First reported sighting date for this occurrence in the form YYYY-MM-DD.				
Last_obs	Last reported sighting date, usually in the form YYYY-MM-DD.				

Key to Oregon Biodiversity Information Center Data

Field Name	Description
Confirmed	Indication of whether taxonomic identification of the Element represented by this occurrence has been confirmed by a reliable individual. Blank=unknown, assumed to be correctly identified. Y=Yes, confident identification. ?=identification questions.
EO Rank	ORNHIC's determination of the viability of the occurrence.
Directions	Site name and/or directions to site.
County	County name(s) in which EO is mapped.
Ecoregion	Physiographic Province in which EO is mapped: CR=Coast Range, WV=Willamette Valley, KM=Klamath Mountains, WC=West slope and crest of the Cascades, EC=East slope of the Cascades, BM=Ochoco, Blue and Wallowa Mts., BR=Basin and Range, CB=Columbia Basin, SP=Snake River Plains. ME=Marine and Estuarine.
Town-Range, Sec, and Note	United States rectangular land survey (also known as the Public Land Survey System) legal township, range, and section descriptions in which the EO is mapped. Township first (4 bytes), range second (4 bytes). For example: 004S029E = Township 4S, Range 29E. All locations are with reference to the Willamette Meridian. Fractional ranges or townships are indicated in the Note field.
Quadcode	USGS code for the USGS topographic quadrangle map(s) where the record is mapped.
Quadname	Name of the USGS topographic quadrangle map(s) where the record is mapped.
Watershed	Watershed(s), identified according to the U.S. Geological Survey (USGS) Hydrologic Unit Map 10-digit code, within which the Element Occurrence is located.
Owner Name/Type	Federal, State, Private, etc.
Managed Area Name	BLM District, USFS Forest, Private Preserve
Annual Observation	Summary of yearly observation.
Source Feature	A Source Feature is the initial translation of a discrete unit of observation data as a spatial feature. Creation of a Source Feature requires an interpretive process. The likely location and extent of an observation is determined through consideration of the amount and direction of any variability between the recorded and actual locations of the observation data. In most cases, the Source Feature is delineated to encompass locational uncertainty.
	A Source Feature can be a point, line, or polygon. The type of Source Feature developed depends on both the preceding conceptual feature type and the locational uncertainty associated with the feature.
Feature ID	Unique identifier for source feature.
Obs Date	Date of source feature observation.
Source Observation Data	Observations specific to the source feature.

Key to Oregon Biodiversity Information Center Data

Field Name	Description			
Uncertainty Type (Distance)	The recorded location of an observation of an Element may vary from its true location due to many factors, including the level of expertise of the data collector, differences in survey techniques and equipment used, and the amount and type of information obtained. This inaccuracy is characterized as locational uncertainty, and is assessed for Source Feature(s) based on the uncertainty associated with the underlying information on the location of the observation.			
	Four categories of locational uncertainty have been identified, as follows:			
	Negligible uncertainty is less than or equal to 6.25 meters in any dimension. Source Features with negligible uncertainty are based on a comprehensive field survey with high quality mapping and a high degree of certainty.			
	<u>Linear</u> uncertainty is greater than 6.25 meters, and varies along an axis (e.g., a path, stream, ridgeline). The true location of an observation with linear uncertainty may be visualized as effectively sliding along a line that delineates the uncertainty.			
	Areal delimited uncertainty is greater than 6.25 meters, and varies in more than one dimension. The true location of an observation can be visualized as floating within an area with a boundary that can be specifically delimited. Boundaries can be defined using roads, bodies of water, etc.			
	Areal estimated uncertainty is greater than 6.25 meters, and varies in more than one dimension. A boundary cannot be specifically delimited based on the observation information, i.e., the actual extent is unknown. The true location of the observation can be visualized as floating within an area for which boundaries cannot be specifically delimited. Source Features with areal estimated uncertainty require that the user specify an estimated uncertainty distance to be used for buffering the feature to incorporate the locational uncertainty.			
Use Class	How the source feature is used by migratory species (e.g. breeding, maternity colony, hibernaculum).			
ЕО Туре	For animals, type of occurrence, e.g. roost, nest, spawning.			
EO Data	Summary of species and population biology for the EO – may include number observed, number of sites, reproduction data, assessment of viability, etc.			
EO Comments	Habitat information, e.g. aspect, slope, soils, associated species, community type.			
Minimum Elevation	Minimum elevation of the area covered by the range of the taxon, in meters. Negative numbers or blank=not determined.			
Protection	Comments on protectibility and threats.			
Management	Comments on how the site is managed.			
Specimens	Details on specimens that have been collected at this occurrence site. Order of information is: Collector (Collector's number). Year collected. Acquisition number. Collection code.			
General	Miscellaneous comments.			

003N001W 003N001W 34 003N001W 32 003N002W 36 003N001W 27 003N001W 29 004N001W 03 003N001W 22 003N001W 20 003N001W 14 003N001W 16 003N001W 11 003N001W **Annual Observations** Source Feature Uncertainty Type (Distance) [Use Class] Delimited (8 m) 43431 - Polygon

Total Tolygon Dominios (o m)

Feature ID Date Source Observation data

Occurence Data

EO Type: Min. Elev.(m): 3

EO Data: HERBARIUM COLLECTION: 1) T.J. HOWELL, 6-1882, 0SC-1989 (ORIG ID C. PSEUDOCYPERUS VAR COMOSA (ANN. TO C.

COMOSA JW STACEY). 2) HENDERSON #1051, 6-5-1884, OSC-1991 (SEE ANNOTATION NOTES IN #1).

COMOSA JW STACEY). 2) HENDERSON #1051, 6-5-1884, OSC-1991 (SEE ANNOTATION NOTES IN #1).

STACEY). 2) HENDERSON #1051, 6-5-1884, OSC-1991 (SEE ANNOTATION NOTES IN #1).

STACEY). 2) HENDERSON #1051, 6-5-1884, OSC-1991 (SEE ANNOTATION NOTES IN #1).

STACEY). 2) HENDERSON #1051, 6-5-1884, OSC-1991 (SEE ANNOTATION NOTES IN #1).

STACEY AND THE PROPERTY OF THE PROPERTY

EO Comments: FLOATING ISLAND (HÉNDERSON 1884)

Protection: Management:

Specimens: HOWELL, T J (#356). 6-1882. OSC-1989.

HENDERSON, LF (#1051). 6-5-1884. OSC-1991.

General: 2004-08 Non-specific point changed to a digitized Sauvic Island polygon, HERBARIUM COLLECTION: 1) T.J.

HOWELL, 6-1882, OSC-1989 (ORIG ID C. PSEUDOCYPERUS VAR COMOSA (ANN. TO C. COMOSA JW STACEY).

2) HENDERSON #1051, 6-5-1884, OSC-1991 (SEE ANNOTATION NOTES IN #1).

Scientific Name: Wolffia columbiana

Common Name: Columbia water-meal

EO NUM: 2

EO ID: 12582

Federal Status: GRANK: G5 NHP List: 2 Category: Vascular Plant
State Status: SRANK: S1 HP Track: Y ELCODE: PMLEM03030

Confirmed: Y First Obs: 1991 Last Obs: 1991-07-03 EO Rank: B - Good estimated viability

Directions: FROM I-5, FOLLOW COLUMBIA BLVD. WEST TO RIVERGATE, HEAD WEST ON RIVERGATE TO BOAT LANDING ON

SMITH LAKE.

<u>County Name</u> <u>Ecoregion</u> <u>Owner Name/Type</u> <u>Watershed</u>

Multnomah WV City 1709001202 - SCAPPOOSE CREEK/MULTNOMAH CHANNEL

 Town-Range
 Sec
 Note
 QuadCode
 QuadName
 Managed Area Name

 002N001E
 31
 45122-E6
 Portland
 Smith and Bybee Lakes

 Source Feature
 Uncertainty Type (Distance) [Use Class]
 Annual Observations

12582 - Point Estimated (1500 m)

Feature ID Date Source Observation data

Occurence Data

EO Type: Min. Elev.(m): 6

EO Data: NOT ABUNDANT IN SHELTERED AREAS, EDGE OF SALIX LASIANDRA SWAMP. WITH LEMNA MINOR.

EO Comments:
 Protection:
 Management:
 Specimens:
 General:

20 records total

Appendix C

Field Sampling Forms

Project: Mecox

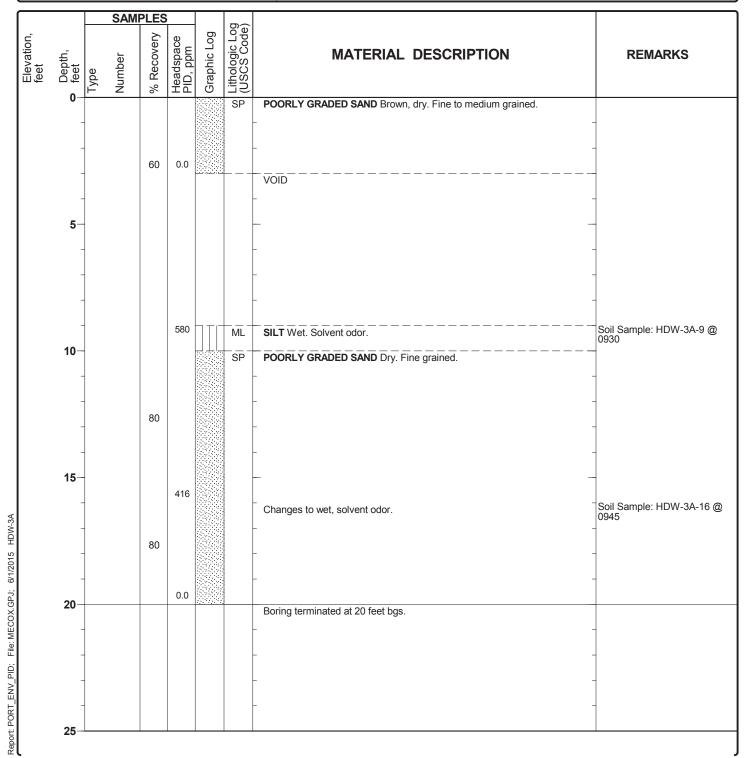
Project Location: 10200 N. Lombard

Project Number: 60394964

Log of Boring HDW-3A

Sheet 1 of 1

Date(s) A	April 3, 2015	Logged By	S. Roberts	Checked By	D. Weatherby, RG
Drilling Method D	Pirect Push	Drill Bit Size/Type	2 3/4-Inch	Total Depth of Borehole	20 feet bgs
Drill Rig Type G	GeoProbe	Drilling Contractor	Pacific Soil and Water	Approximate Surface Elevation	NA
Groundwater and Date Mea		Sampling Method(s)	Grab	Hammer NA Data	
Borehole Backfill B	Sentonite Chips	Comment			



Project: Mecox

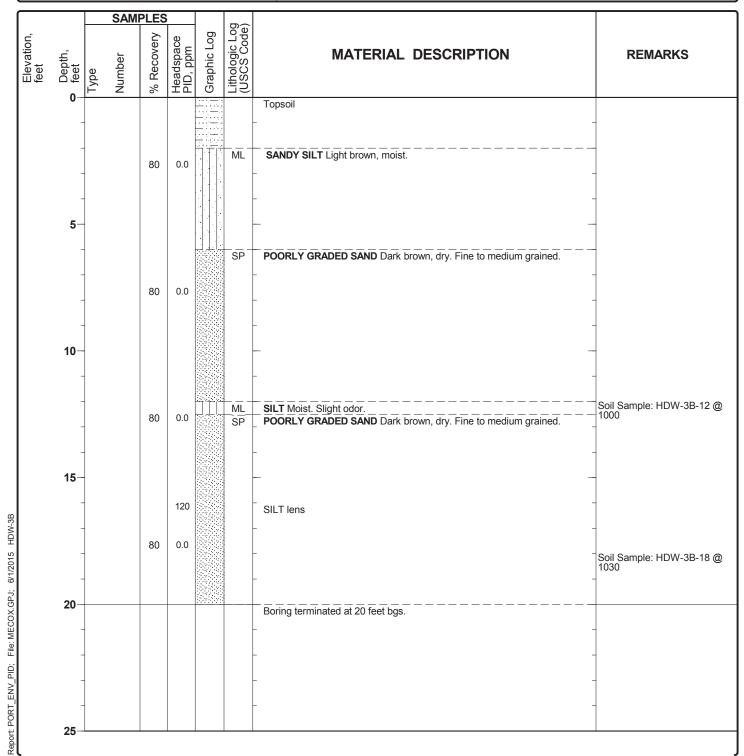
Project Location: 10200 N. Lombard

Project Number: 60394964

Log of Boring HDW-3B

Sheet 1 of 1

Date(s) Drilled	April 3, 2015	Logged By	S. Roberts	Checked By	D. Weatherby, RG
Drilling Method	Direct Push	Drill Bit Size/Type	2 3/4-Inch	Total Depth of Borehole	20 feet bgs
Drill Rig Type	GeoProbe	Drilling Contractor	Pacific Soil and Water	Approximate Surface Elevation	NA
Groundwate and Date M		Sampling Method(s)	Grab	Hammer NA Data	
Borehole Backfill	Bentonite Chips	Comment			



URS Corporation Sediment Sample Datasheet – Individual Samples

Project and Location									
Project: Necox Sample Team: 572 BW Date: 4-17-15									
Sample Location: OF-Z Overflow Catch Basin									
Sâmple Collection									
Sampling Method: Grab									
Decontamination Method: Mconox, DI rinsc									
Sample ID:07-2 Ovo How Cuta Basin Container(s): 3 nethanol vials, 1402 Jar Sample Time: 13/5									
QA/QC Samples:									
Description									
Water Depth and Flow Description:									
Depth and Volume of Solids in Catch Basin: 3 '' Acce									
Color: Brown									
USCS Classification:									
Odor/Sheen/Discoloration: no odor sheen									
Odor/Sheen/Discoloration: No odor, we sheen Amount and Type of Debris: Some leaf litter									
Diagram of Sample Location									
Record: dimensions of catch basin or pipe, diagram inlet/outlet pipes, source of inlet flows, and destination of outlet flows.									
grave									
Thigh I high									
Sample Collegral Name									
4 wille									

Monitoring Well Sampling Field Log

Page 1 of ____

Well Number: MW-Z

		1000									
Project Information Project Name: MeCOY URS Project Number:				Well Informa	ation	_	Stick-up or Flush		(circle one) Screen Interval		
				Well	Drilled Well Depth		Top o	f Screen			
				Diameter (in)	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	(ft bgs)		
Sampling I	nformation				2	Cal		90		90-10	S
Field Team:	5. Peber	3/R W	aldon		CMT	Port=0.006 gal/ft	3/4"=0.023 ga	ıl/ft 2"=0.17 g	gal/ft 4"=0.66 g		
Purge Meth	od: Low Fl	3/B, W			Sample Con	tainers					200
	e Depth (ft btc):				Number	Туре	Prese	rvative	Analytic	cal Parameters	Filtered?
Flow-Through											+
	•									-	
Sampling M	200 A200 A A4										+
	nation Method:										-
Purge Wate Field Condit											+
Comments							1				-
Initial DTW	83	19.									
	99	5 Nb	Tan								1
	•										
										72	
1/852.53											
Well Purge	Data				n.Sjlon			-			
	Volume	Purge Rate	DTW	Temp.	Conductivity	D.O.		ORP	Turbidity	Clarity / Color	/
Time	Purged (L)	(mL/m)	(ft btc)	(°C)	(uS/cm)	(mg/L976	pH	(mV)	(NTUs)	Remarks	
	Pump On		83.91		±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilizatio	n
	0										
939			83.41	13114	.145	55.8	8.40	110	800	Cloudy	
946			83.91	13.63	,144	49.1	7.82	121	800	6	
92			83.51	13632	.141	48.5	7.04	142	498		
933			83.91	14.40	.141	48.1	7.07	142	491		
DOOL			83.91	14.40	.141	48.7	6.96	145	420		
1005	15		\$3.91	14.46	,141	48.2	6.87	149	311		
100			83.91	4.62	141	48.8	6.80	154	333		
1013			83.91	1478	.142	51.5	6.76	157	ITI		
1016				14.76	1142	54.3	6.75	160	119		
1019	1			14.50	.143	514	6.72	164	82		
1023			83.91	14.34	1143	20.8	6.71	167	64		
1076			83.91	14.30	.143	51.5	670	168	55		
					28						
					71						_
	Start Sampling	103	O			2				1 n3 =	
	End Sampling	T	Final	Sample Numb	er: /	W-2			Sample Time	1030	

Notes:

AC = almost clear

btc = b

btc = below top of casing

DTW = depth to water

VC = very cloudy SC = slightly cloudy

bgs = below ground surface

Cl = cloudy

C = clear

Monitoring Well Sampling Field Log

Page 1 of ____

Well Number: HW 1

Project Information				Well Informa	tion		Stick-up or Flush		(circle one)		
Project Name: hecox			Well Diameter	Drilled W	ell Depth	Top of	Screen	Screen Interval			
URS Project Number:			(in)	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	(ft bgs)			
Sampling Information			2					85-95			
Field Team: 53, BW			CMT F	ort=0.006 gal/ft	al/ft 4"=0.66 g	al/ft 6"=1.5 gal/ft					
Purge Metho					Sample Cont	ainers					Filtered?
Pump Intake Depth (ft btc):				Number	Туре	Prese	rvative	Analytic	cal Parameters		
Flow-Throug	jh Cell:										
Sampling Me	ethod:	m Flor	N .								
Decontamina	ation Method:										
Purge Water	r Disposal:										
Field Conditi	ions:										
Comments:											
Initial DTW:	8	2.54									
	D	: 145		•							
		*						•			
					<u></u>						4
Well Purge	Data Volume	1			г						_
Time	Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity //ws/cm)	D.O. (mg/L)	рН	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks	
1142	Pump On		Initial	-	±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria	
14844	0	560									
1150	3		82,55	13.31	0,179	10.28	7.22	132	338	Cloudy bubb	ile i
1155			82.54	13.66	.179	0	7.25	109	267	, ,	
1200				14.37	.178	D	7.76	87	158		
1205			82.54	14.60	179	0	727	フユ	105		
1208			82.54	14.79	1178	0	7.27	59	76		
1211			87.54	14.74	.178	00	7.28	49	54		
1214				14.54	.178	0	7.29	33-733	37		
											-
						Vi					
	Start Sampling	12	15								
	End Sampling Sample Nun								Sample Time:		
			Final				1				

Notes: AC = almost clear

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bgs = below ground surface

CI = cloudy

C = clear

SC = slightly cloudy

Monitor	ring Well S	ampling	Field Log	J				W	ell Number:	10-9	
Page 1 of _									Date:	4-16-15	
Project Information					Well Informa	ation		Stick-up or Flush		(circle one)	
Project Nam	110	ο <u>ι</u>	7 8		Well Diameter	Drilled Well Depth		Торо	f Screen	Screen Interval	
URS Projec					(in)	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	(ft bgs)	
Sampling I	nformation	,			3					85.95	-
Field Team:		- Bw	î.		СМТ	Port=0.006 gal/ft	3/4"=0.023 ga	al/ft 2"=0.17 g	jal/ft 4"=0.66 g	al/ft 6"=1.5 gal/ft	
Purge Meth	od:				Sample Con	tainers					T ¿þ
Pump Intake	e Depth (ft btc):	9	D		Number	Туре	Prese	ervative	Analytic	al Parameters	Filtered?
Flow-Through	gh Cell:										
Sampling M	lethod:	ion F	torne								
	nation Method:										
Purge Wate	er Disposal:										
Field Condit											T
Comments	:										
Well Purge Time		Purge Rate (mL/m)	DTW (ft btc) Initial	Temp. (°C)	Conductivity (uS/cm)	D.O. (mg/L) ±greater of 10% or 0.2mg/L	pH ±0.1	ORP (mV) ±10mv	Turbidity (NTUs)	Clarity / Color / Remarks <= Stabilization Criteria	_
1408			1001	15.42	.139	496	6 88	191	288		
1408			83.78		,137	4.86	6.88	192	130		
1418			83.77	15.61	137	5.07	6.85	198	885		
1471				11.57	.137	4.96	6.85	130	69.7		
1424			8278	15.52		5.02	6.84	132	48		
1427			82.77	15.52 15.5D	137	500	6.84	132	69.2 48 48		
						-					
	ļ	01.0	Ļ		L	L					
	Start Sampling	14	50								
	End Sampling			Sample Numb	er:				Sample Time:		

Notes:

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CI = cloudy

C = clear

SC = slightly cloudy

Monitoring Well Sampling Field Log

Page 1 of ____

Well Number:

Project Information				Well Information			Stick-up or Flush (circle one)		(circle one)	
Project Nam	ie:	MRL	DY.		Well Diameter	Drilled W	ell Depth	Top of	Screen	Screen Interval
URS Project	Number:				(in)	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	(ft bgs)
Sampling In	formation				2					88 -18
Field Team:	5.	2, Bu	V		CMT F	ort=0.006 gal/ft	3/4"=0.023 gal	l/ft 2"=0.17 g	al/ft 4"=0.66 g	al/ft 6"=1.5 gal/ft
Purge Metho	od:				Sample Cont	tainers				al Parameters
Pump Intake Depth (ft btc):				Number	Туре	Prese	rvative	Analytic	al Parameters	
Flow-Throug		. 5								
Sampling Me	ethod:	بایم سعیا	30							
Decontamina	ation Method:									
Purge Water	r Disposal:						i			
Field Conditi										
Comments: Initial DTW:		19.4								
		G5 50	Tan							
	W									
Well Purge I	Data									- 72
Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (u8/cm)	D.O. (mg/L)	pН	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
	Pump On		Initial	-	±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
	0	710								
1535 1540 1545 1545 1553 1553			84.41 84.41 84.45 84.45 84.41 84.41	16.30 16.60 16.69 16.69 16.84	171 170 169 165 165	4.40 3.95 4.23 4.20 4.20 4.10 4.10	7.10 7.08 7.09 7.09 7.09	159 155 150 149 150 150	316 754 146 102 51.6 34	
	Start Sampling	160	0							
	End Sampling		Final	Sample Numb	er:				Sample Time:	

Notes: AC = almost clear

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CI = cloudy

C = clear

SC = slightly cloudy

Monitoring Well Sampling Field Log

Well Number:

Page 1 of					Date:	471-15	
Project Information	Well Informat	ion		Stick-up or	Flush	(circle one)	
Project Name: MeLox	Well Diameter	Drilled Well Depth		Top of Screen		Screen Interval	
URS Project Number:	(in)	(ft bgs)	(ft btc)	(ft bgs)	(ft btc)	(ft bgs)	
Sampling Information	3					88 - 98	
Field Team: 52 3W	CMT P	ort=0.006 gal/ft	3/4"=0.023 ga	l/ft 2"=0.17 ga	al/ft 4"=0.66 g	al/ft 6"=1.5 gal/ft	
Purge Method:	Sample Conta	ainers					Filtered?
Pump Intake Depth (ft btc):	Number	Туре	Prese	rvative	Analytic	al Parameters	E E
Flow-Through Cell:							
Sampling Method:							
Decontamination Method:							
Purge Water Disposal:							
Field Conditions:							
Comments:							-
Initial DTW: 83.55							-
48.25							-
							-
							1
							-
Well Purge Data							

Time	Volume Purged (L)	Purge Rate (mL/m)	DTW (ft btc)	Temp. (°C)	Conductivity (u8rcm)	D.O. (mg/L)	pН	ORP (mV)	Turbidity (NTUs)	Clarity / Color / Remarks
	Pump On		Initial	- s	±3%	±greater of 10% or 0.2mg/L	±0.1	±10mv	±10%	<= Stabilization Criteria
	0		83.58							
833			8362	13.97	.153	2.66	7.06	223	456	
838			83.61	14.47	1153	2.96	6.95	293	372	
843			83.62	15.34	.153	278	6.89	219	355	
			8362	15.36	.157	2.63	6.88	214	219	
853			83.62	15.36	.151	2.62	6.86	309	124	
858			83.63	15.62	.हा	2.59	6.84	204	78	
8401			83.62	15.63	. 150	3.55	6.84	303	59	
904			83.62	15.68	1150	3.28	6.87	200	40	
907			83.62	15.68	.149	7.23	6.82	198	29	
-										
-		-								
				Ew						
	Start Sampling	9	10							
	End Sampling		Final	Sample Numb	er:				Sample Time:	

Notes: AC = almost clear

btc = below top of casing

DTW = depth to water

VC = very cloudy SC = slightly cloudy

bgs = below ground surface

CI = cloudy

C = clear

0011 040 0411			
Sample	Location		
Sample Location (Boring or Well):55 17-3	Date: 4-17-15		
Project Location: MCCOX	Sample Team: SR BW		
Purging and	I Leak Check		
Length of Tubing (aboveground only): ft	ID of Tubing: 3/16 inch		
Volume of Tubing (aboveground only): +13+ml	Volume of Tubing (per ft): 0.00546 ml/ft		
Well Total Depth: ~8 ft	ID of Well: 3/4 inch		
Total Volume of Well: 0.0436 2.131 ml	Volume of Well (per ft): 86.9 ml/ft		
Target Purge Volume (3 x [total volume of aboveground	nd tubing + well]): 30 mt 0.131 ml		
Purge Flow Rate: 167 mL/min	Volume of Soil Gas Purged: 30 ml		
Manifold Leak Check: Puss	Volume of Soil Gas Purged: 30 ml Helium Leak Check Value: 0.0 pm		
Sample (Collection		
Sample Depth Interval: 506-5145	Manifold Number: 2		
Sampling Flow Rate: 167 mL/min	QC Samples Collected:		
Sample ID (Primary): 55 vP-3	Sample Time: 1146		
Canister Number (Primary): 34432			
Initial Canister Vacuum: -30 "My	Final Canister Vacuum: -4.5 1 44		
Sample ID (Duplicate):	Sample Time:		
Canister Number (Duplicate):	Note: + 5 minutes to the primary sample time so appears as a blind sample on COC		
Initial Canister Vacuum:	Final Canister Vacuum:		
Field Notes: Pury volume: 81 x dy,00	546 = .0436 ×3 = .131		
	8		

	rpinig r omi				
Sample	Location				
Sample Location (Boring or Well):5507-2	Date: 4-17-15				
Project Location: hecox	Date: 4-17-15 Sample Team: 572 BW				
Purging and Leak Check					
Length of Tubing (aboveground only):	ID of Tubing: 3/16 inch				
Volume of Tubing (aboveground only): ,049 m	Volume of Tubing (per ft): 0.00546 ml/ft				
Well Total Depth:	ID of Well: 3/4 inch				
Total Volume of Well: .00516 1955 ml	Volume of Well (per ft): 86.9 ml/ft				
Target Purge Volume (3 x [total volume of abovegrou	nd tubing + well]): [] , [638 m]				
Purge Flow Rate: 167 mL/min	Volume of Soil Gas Purged: 30 m				
Manifold Leak Check:	Helium Leak Check Value: 0,0 ppm				
Sample (Collection				
Sample Depth Interval: 505-5/45	Manifold Number: 5789				
Sampling Flow Rate: 167 mL/min	QC Samples Collected:				
Sample ID (Primary): SSVP-Z	Sample Time: (708				
Canister Number (Primary): 935					
Initial Canister Vacuum: 30" Hy	Final Canister Vacuum: -4.5 Hg				
Sample ID (Duplicate):	Sample Time:				
Canister Number (Duplicate):	Note: + 5 minutes to the primary sample time so appears as a blind sample on COC				
Initial Canister Vacuum:	Final Canister Vacuum:				
Field Notes:					

Samplê Location					
Sample Location (Boring or Well): 550P-1	Date: 4-17-15				
Project Location: Melox	Sample Team: 52 /BW				
Purging and					
Length of Tubing (aboveground only):	ID of Tubing: 3/16 inch				
Volume of Tubing (aboveground only): ,puq ml	Volume of Tubing (per ft): 0.00546 ml/ft				
Well Total Depth:	ID of Well: 3/4 inch				
Total Volume of Well: , , , , and ,	Volume of Well (per ft): 86.9 ml/ft				
Target Purge Volume (3 x [total volume of abovegroun	nd tubing + well]): 0.1638 m				
Purge Flow Rate: 167 mL/min	Volume of Soil Gas Purged: 30 - 1				
Manifold Leak Check: ₽ ₄₅₅	Helium Leak Check Value: 0.0 ppm				
Sample C					
Sample Depth Interval: 505-5145	Manifold Number: 925				
Sampling Flow Rate: 167 mL/min	QC Samples Collected:				
Sample ID (Primary): SSVP-1	Sample Time: 1224				
Canister Number (Primary): 5788					
Initial Canister Vacuum: -30"#g	Final Canister Vacuum: -4.5" Hy				
Sample ID (Duplicate):	Sample Time:				
Canister Number (Duplicate):	Note: + 5 minutes to the primary sample time so appears as a blind sample on COC				
Initial Canister Vacuum:	Final Canister Vacuum:				
Field Notes:					

URS Corporation Sediment Sample Datasheet – Individual Samples

	Project and Location
Project: Mecox	Sample Team: S. Polents, Bualden Date: 5-5-15
Sample Location: Pail Spur	Sump
	Sample Collection
Sampling Method: Gras	
Decontamination Method:	c, DI rinse
Sample ID: Rail Spur Sump	Container(s): 3 methand wals 1402 aw Sample Time: 1015
QA/QC Samples:	
	Description
Water Depth and Flow Description:	"- stagnar
Depth and Volume of Solids in Catch Basin:	3.,
Color: Brown	
USCS Classification:	Marine, 9 to 100
Odor/Sheen/Discoloration: no od	or Ino sheen
Amount and Type of Debris: Some W	oood debris + ballano
	Diagram of Sample Location
1901	iagram inlet/outlet pipes, source of inlet flows, and destination of outlet flows.
Man View	
1 2 1 1 2 1 1 1	
	R-8" PIPE
	HI H
	\$1,500

Sample Location						
Sample Location (Boring or Well):	Date: 5-5-15					
Project Location: Meca Comband	Sample Team: SR/BW					
Purging and	Leak Check					
Length of Tubing (aboveground only): 9 ft	ID of Tubing: 3/16 inch					
Volume of Tubing (aboveground only): .049 ml	Volume of Tubing (per ft): 0.00546 ml/ft					
Well Total Depth: 4.5' 4.03 ft	ID of Well: 3/4 inch					
Total Volume of Well: , cosy ₆ ml	Volume of Well (per ft): 86.9 ml/ft					
Target Purge Volume (3 x [total volume of aboveground tubing + well]): 0.1638 ml						
Purge Flow Rate: 167 mL/min	Volume of Soil Gas Purged: 30 m l					
Manifold Leak Check: Pass	Helium Leak Check Value: 0.0 ppm					
Sample C						
Sample Depth Interval: Sub-slab	Manifold Number:					
Sampling Flow Rate: 167 mL/min	QC Samples Collected:					
Sample ID (Primary): SSVP-2	Sample Time: 1730					
Canister Number (Primary): 34011						
Initial Canister Vacuum: -28 14	Final Canister Vacuum: ~4.5" Hy					
Sample ID (Duplicate):	Sample Time:					
Canister Number (Duplicate):	Note: + 5 minutes to the primary sample time so appears as a blind sample on COC					
Initial Canister Vacuum:	Final Canister Vacuum:					
Field Notes: Sparred @ 1643						

Sample Location						
Sample Location (Boring or Well): 554	Date: 5-5-15					
Project Location: MeLox Lombon	Sample Team: SR Ru					
	Leak Check					
Length of Tubing (aboveground only):	ID of Tubing: 3/16 inch					
Volume of Tubing (aboveground only): "049 ml	Volume of Tubing (per ft): 0.00546 ml/ft					
Well Total Depth: ~5.5 ft	ID of Well: 3/4 inch					
Total Volume of Well: .00546 ml	Volume of Well (per ft): 86.9 ml/ft					
Target Purge Volume (3 x [total volume of abovegrour	nd tubing + well]): 0.1638 m l					
Purge Flow Rate: 167 mL/min	Volume of Soil Gas Purged: 30 ml					
Manifold Leak Check:	Helium Leak Check Value: O.D Am					
Sample C						
Sample Depth Interval: SUS-SIAS	Manifold Number: 3444C					
Sampling Flow Rate: 167 mL/min	QC Samples Collected:					
Sample ID (Primary): 55011	Sample Time: 1736					
Canister Number (Primary): 34445						
Initial Canister Vacuum: -30" Hy	Final Canister Vacuum: -4.5" (Ay					
Sample ID (Duplicate):	Sample Time:					
Canister Number (Duplicate):	Note: + 5 minutes to the primary sample time so appears as a blind sample on COC					
Initial Canister Vacuum:	Final Canister Vacuum:					
Field Notes: 500med 1698						

Sample Location						
Sample Location (Boring or Well): \$20-3	Date: 5-5-15					
Project Location: Mecox Combern	Sample Team: SR Bu					
Purging and	Leak Check					
Length of Tubing (aboveground only): ft	ID of Tubing: 3/16 inch					
Volume of Tubing (aboveground only): ,03832 ml	Volume of Tubing (per ft): 0.00546 ml/ft					
Well Total Depth: ∼8 ft	ID of Well: 3/4 inch					
Total Volume of Well: 6.0436 ml	Volume of Well (per ft): 86.9 ml/ft					
Target Purge Volume (3 x [total volume of abovegroun	d tubing + well]): 6.131					
Purge Flow Rate: 167 mL/min	Volume of Soil Gas Purged: 30 m l					
Manifold Leak Check: Pass	Helium Leak Check Value: 0.0					
Sample C	ollection					
Sample Depth Interval: Sub-51ab	Manifold Number: 9562					
Sampling Flow Rate: 167 mL/min	QC Samples Collected:					
Sample ID (Primary): SSVP-3	Sample Time: 1799					
Canister Number (Primary): 9562						
Initial Canister Vacuum: 25" Hy	Final Canister Vacuum: 4.5" Hy					
Sample ID (Duplicate):	Sample Time:					
Canister Number (Duplicate):	Note: + 5 minutes to the primary sample time so appears as a blind sample on COC					
Initial Canister Vacuum:	Final Canister Vacuum:					
Field Notes: Special @ 1638						
	· · · · · · · · · · · · · · · · · · ·					
	L. 12 15 15					

URS Corporation Sediment Sample Datasheet – Individual Samples

Project and Location
Project: Mccox Sample Team: 5.25-3 Date: 6-10-15
Sample Location: OF-2 Overflow Cooks Basin
Sämple Collection
Sampling Method: Crab
Decontamination Method: Mconox, DI nse
Sample ID: 07-2 OCB Container(s): 3 method valk, 1-402 w Sample Time: 1130
QA/QC Samples:
Description
Water Depth and Flow Description:
Depth and Volume of Solids in Catch Basin:
Color: hghibron
USCS Classification: 5105
Odor/Sheen/Discoloration: No offer Ino sheen
Amount and Type of Debris: 5 one leaf 1, Ter
Diagram of Sample Location
Record: dimensions of catch basin or pipe, diagram inlet/outlet pipes, source of inlet flows, and destination of outlet flows.
Sample collected have
4 Wide

URS Corporation Catch Basin Sediment Sample Datasheet – Composite Samples

to write the	Prč	ject	对 等人是 相差
Project: Mecax	Sample Team:	5. Roberts	Date: 6-10-15
"" " " " " " " " " " " " " " " " " " "	Composite Sar	mple Collection	
Sample ID: 0F-3	Container(s): 3	nethod wals, 1-402 For	Sample Time: (030
QA/QC Samples:			
Sampling Method: Gras		Decontamination Method: 👍	Conox, DI rinse
	Catch Basi	n Locations	
Catch Basin: CB-6			
USCS, Color, Odor/Sheen, and De	ebris: Dark brom 5,1	r+ An SOUD no oder	r moshean organic debr
Water Depth and Flow Description			
Depth of Solids in Catch Basin:	3		
Catch Basin: CB-			
USCS, Color, Odor/Sheen, and Do	ebris: Pork brown 5,1	F. no olor node	some plant debris
Water Depth and Flow Description	eoris: Part brown sil		
Depth of Solids in Catch Basin:	1.5"		Physical Indiana (Physical Physical Phy
Catch Basin: (B-8	*		
USCS, Color, Odor/Sheen, and Do	ebris: Black S. IT	w olor moster	Sime origina Debris
Water Depth and Flow Description	: -ang	1103.00	
Depth of Solids in Catch Basin:	("		***************************************
	Diagram of C	Catch Basins	
Record: dimensions of catch basin	or pipe, diagram inlet/outlet pi	pes, source of inlet flows, and des	tination of outlet flows.
Se	& Mayor of		

URS Corporation Catch Basin Sediment Sample Datasheet – Composite Samples

	Project	
Project: Mecox	Sample Team: 5, 7205e-53	Date: 6-10-15
	Composite Sample Collection	
Sample ID: 0F-4	Container(s): 3 method wals, 1-402 To	Sample Time: 900
QA/QC Samples:		
Sampling Method: 6 rds	Decontamination Method:	Iconox, Of rinse
	Catch Basin Locations	
Catch Basin: Manhole by	CB-I	
	t Brown S, it, no odor, nosheen, s	ome organic debit knes)
	ή	
Depth of Solids in Catch Basin:	cm	
Catch Basin: Manhole by Ci	3-3	
	k brown, no odor, no sheen, so	me organic Rebris (Rous)
Water Depth and Flow Description:		
Depth of Solids in Catch Basin:		
Catch Basin:		
USCS, Color, Odor/Sheen, and Debris:	3	
Water Depth and Flow Description:		
Depth of Solids in Catch Basin:		
	Diagram of Catch Basins	
Record: dimensions of catch basin or pipe, dia	agram inlet/outlet pipes, source of inlet flows, and des	tination of outlet flows.
Sag	Figur 2	
Jee	199	

Appendix D

Laboratory Reports



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle 5755 8th Street East Tacoma, WA 98424 Tel: (253)922-2310

TestAmerica Job ID: 580-48652-1

TestAmerica Sample Delivery Group: Crown Cork & Seal

Client Project/Site: Mecox

For:

URS Corporation 111 SW Columbia Suite 1500 Portland, Oregon 97201-5814

Attn: Mr. Stephen Roberts

Sand Murphy

Authorized for release by: 4/20/2015 3:50:15 PM

Sarah Murphy, Project Manager I (253)922-2310

sarah.murphy@testamericainc.com

..... LINKS

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

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Case Narrative

Client: URS Corporation Project/Site: Mecox TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

3

Job ID: 580-48652-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-48652-1

Comments

No additional comments.

Receipt

The samples were received on 4/3/2015 2:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.1° C.

GC/MS VOA

Method 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 186412 was outside criteria for the following analyte(s): Acetone, 2-Butanone (MEK). As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 186928 was outside criteria for the following analyte(s): Acetone, Vinyl chloride, and 2-Butanone (MEK). As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 187110 was outside criteria for the following analyte(s): 2-Butanone (MEK), Acetone and Vinyl chloride. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method 8260C: 8260C: The continuing calibration blank (CCB 580-187110/5) for analytical batch 187110 contained Methylene chloride above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method NWTPH-Gx: The following sample was diluted to bring the concentration of target analytes within the calibration range: HDW-3A -9 (580-48652-1). Elevated reporting limits (RLs) are provided.

Method NWTPH-Gx: Surrogate recovery for the following samples was outside control limits: HDW-3A -9 (580-48652-1) and HDW-3A -16 (580-48652-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method NWTPH-Gx: The method blank for 186483 contained gasoline above the method detection limit. This target analyte concentration was less than half the reporting limit (1/2RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method 8270D: The method blank for prep batch 186440 contained Bis(2-ethylhexyl)phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed. Affected sample: HDW-3A -9 (580-48652-1) and (MB 580-186440/1-B)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method NWTPH-Dx: TIn analysis batch 580-186829, the following samples from prep batch 186786 contained a hydrocarbon pattern in the diesel range; however, the elution pattern was a mixture of hydrocarbon envelope patterns that elute both earlier and later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: HDW-3A -9 (580-48652-1) and HDW-3A -16 (580-48652-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Case Narrative

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1

SDG: Crown Cork & Seal

Job ID: 580-48652-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Method 3550B: In preparation batch 186369, the following sample matrix observations were made for samples HDW-3A -9 (580-48652-1): the samples were very moist and had a strong organic odor.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1

SDG: Crown Cork & Seal

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

These commonly used abbreviations may or may not be present in this report.

F1 MS and/or MSD Recovery exceeds the control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
В	Compound was found in the blank and sample.

GC VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
Y	The chromatographic response resembles a typical fuel pattern.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Motals	

Qı	ıalifier	Qualifier Description
J		Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary Abbreviation

¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: URS Corporation TestAmerica Job ID: 580-48652-1 Project/Site: Mecox SDG: Crown Cork & Seal

Lab Sample ID: 580-48652-1

Matrix: Solid

Client Sample ID: HDW-3A -9 Date Collected: 04/03/15 09:30 Date Received: 04/03/15 14:10 Percent Solids: 75.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.053	0.0086	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
Chloromethane	ND		0.13	0.013	mg/Kg	₽	04/10/15 17:15	04/15/15 23:02	1
Vinyl chloride	ND		0.021	0.0094	mg/Kg	₽	04/10/15 17:15	04/15/15 23:02	1
Bromomethane	ND		0.18	0.018	mg/Kg	₽	04/10/15 17:15	04/15/15 23:02	1
Chloroethane	ND		0.53	0.021	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
Trichlorofluoromethane	ND		0.053	0.0078	mg/Kg	₽	04/10/15 17:15	04/15/15 23:02	1
1,1-Dichloroethene	0.60		0.026	0.0065	mg/Kg	φ.	04/10/15 17:15	04/15/15 23:02	1
Carbon disulfide	ND		0.053	0.0058	mg/Kg	₽	04/10/15 17:15	04/15/15 23:02	1
Acetone	0.87	J	1.1	0.23	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
Methylene Chloride	0.033		0.033	0.015	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
Methyl tert-butyl ether	ND		0.053	0.0079	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
trans-1,2-Dichloroethene	ND		0.053	0.0050	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
1,1-Dichloroethane	0.013	J	0.053	0.0055	mg/Kg		04/10/15 17:15	04/15/15 23:02	1
2,2-Dichloropropane	ND		0.053	0.0063	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
cis-1,2-Dichloroethene	ND		0.053	0.0065	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
2-Butanone (MEK)	ND		0.53	0.069	mg/Kg		04/10/15 17:15	04/15/15 23:02	1
Bromochloromethane	ND		0.053	0.0061	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
Chloroform	ND		0.053	0.0055		₽	04/10/15 17:15	04/15/15 23:02	1
1,1,1-Trichloroethane	6.6		0.053	0.0074	mg/Kg		04/10/15 17:15	04/15/15 23:02	1
Carbon tetrachloride	ND		0.026	0.0050	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
1,1-Dichloropropene	ND		0.053	0.0070	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
Benzene	ND		0.021	0.0046	mg/Kg	φ.	04/10/15 17:15	04/15/15 23:02	1
1,2-Dichloroethane	ND		0.021	0.0043	mg/Kg	₽	04/10/15 17:15	04/15/15 23:02	1
Trichloroethene	0.039		0.032	0.0041	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
1,2-Dichloropropane	ND		0.016	0.0032	mg/Kg	φ.	04/10/15 17:15	04/15/15 23:02	1
Dibromomethane	ND		0.079	0.017	mg/Kg	₽	04/10/15 17:15	04/15/15 23:02	1
Bromodichloromethane	ND		0.053	0.0018	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
cis-1,3-Dichloropropene	ND		0.021	0.0024	mg/Kg		04/10/15 17:15	04/15/15 23:02	1
4-Methyl-2-pentanone (MIBK)	ND		0.26	0.039	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
trans-1,3-Dichloropropene	ND		0.053	0.0092	mg/Kg	₽	04/10/15 17:15	04/15/15 23:02	1
1,1,2-Trichloroethane	ND		0.016	0.0037	mg/Kg		04/10/15 17:15	04/15/15 23:02	1
Tetrachloroethene	5.3		0.026	0.0070		₩	04/10/15 17:15	04/15/15 23:02	1
1,3-Dichloropropane	ND		0.053	0.0072		₽	04/10/15 17:15	04/15/15 23:02	1
2-Hexanone	ND		0.26		mg/Kg	ф	04/10/15 17:15	04/15/15 23:02	1
Dibromochloromethane	ND		0.026		mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
1,2-Dibromoethane	ND		0.021	0.0045	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
Chlorobenzene	ND		0.053		mg/Kg		04/10/15 17:15	04/15/15 23:02	1
1,1,1,2-Tetrachloroethane	ND		0.053		mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
Ethylbenzene	3.7		0.053	0.0026		₽	04/10/15 17:15	04/15/15 23:02	1
Styrene	ND		0.053	0.0032			04/10/15 17:15	04/15/15 23:02	1
Bromoform	ND		0.053	0.0086		₽	04/10/15 17:15	04/15/15 23:02	1
Bromobenzene	ND		0.053	0.0032		₩	04/10/15 17:15	04/15/15 23:02	1
1,1,2,2-Tetrachloroethane	1.5		0.013		mg/Kg		04/10/15 17:15	04/15/15 23:02	1
1,2,3-Trichloropropane	ND.		0.053		mg/Kg	₽	04/10/15 17:15	04/15/15 23:02	1
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TestAmerica Seattle

4/20/2015

04/15/15 23:02

04/15/15 23:02

04/15/15 23:02

04/15/15 23:02

04/15/15 23:02

04/10/15 17:15

04/10/15 17:15

04/10/15 17:15

04/10/15 17:15

04/10/15 17:15

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0.053

0.053

0.053

0.079

0.079

0.0045 mg/Kg

0.0040 mg/Kg

0.0041 mg/Kg

0.014 mg/Kg

0.014 mg/Kg

ND

ND

1.5

ND

ND

2-Chlorotoluene

4-Chlorotoluene

tert-Butylbenzene

1,3-Dichlorobenzene

1,4-Dichlorobenzene

Client: URS Corporation Project/Site: Mecox

Client Sample ID: HDW-3A -9

Date Collected: 04/03/15 09:30

Date Received: 04/03/15 14:10

TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

Lab Sample ID: 580-48652-1

Matrix: Solid

Percent Solids: 75.1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.053	0.016	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
1,2-Dibromo-3-Chloropropane	ND		0.26	0.0034	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
1,2,4-Trichlorobenzene	ND		0.053	0.0051	mg/Kg	₽	04/10/15 17:15	04/15/15 23:02	1
Hexachlorobutadiene	ND		0.11	0.024	mg/Kg	₽	04/10/15 17:15	04/15/15 23:02	1
Naphthalene	1.3		0.053	0.0046	mg/Kg	₩	04/10/15 17:15	04/15/15 23:02	1
1,2,3-Trichlorobenzene	ND		0.053	0.0041	mg/Kg	\$	04/10/15 17:15	04/15/15 23:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96		80 - 120				04/10/15 17:15	04/15/15 23:02	1
1,2-Dichloroethane-d4 (Surr)	103		71 - 136				04/10/15 17:15	04/15/15 23:02	1
4-Bromofluorobenzene (Surr)	101		70 - 120				04/10/15 17:15	04/15/15 23:02	1
Dibromofluoromethane (Surr)	101		75 ₋ 132				04/10/15 17:15	04/15/15 23:02	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	7.2		0.53	0.034	mg/Kg	<u> </u>	04/10/15 17:15	04/15/15 22:30	1
m,p-Xylene	84		2.6	0.20	mg/Kg	₩	04/10/15 17:15	04/17/15 13:02	1
o-Xylene	33		0.53	0.040	mg/Kg	₩	04/10/15 17:15	04/15/15 22:30	1
Isopropylbenzene	9.8		0.53	0.034	mg/Kg	\$	04/10/15 17:15	04/15/15 22:30	1
N-Propylbenzene	19		0.53	0.034	mg/Kg	₩	04/10/15 17:15	04/15/15 22:30	1
sec-Butylbenzene	19		0.53	0.037	mg/Kg	₽	04/10/15 17:15	04/15/15 22:30	1
p-lsopropyltoluene	17		0.53	0.037	mg/Kg	₽	04/10/15 17:15	04/15/15 22:30	1
n-Butylbenzene	21		0.53	0.046	mg/Kg	₩	04/10/15 17:15	04/15/15 22:30	1
1,3,5-Trimethylbenzene	59		2.6	0.19	mg/Kg	₽	04/10/15 17:15	04/17/15 13:02	1

Surrogate	%Recovery	Qualifier Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	95	80 - 120	04/10/15 17:15	04/15/15 22:30	1
Toluene-d8 (Surr)	99	80 - 120	04/10/15 17:15	04/17/15 13:02	1
1,2-Dichloroethane-d4 (Surr)	110	71 - 136	04/10/15 17:15	04/15/15 22:30	1
1,2-Dichloroethane-d4 (Surr)	94	71 - 136	04/10/15 17:15	04/17/15 13:02	1
4-Bromofluorobenzene (Surr)	99	70 - 120	04/10/15 17:15	04/15/15 22:30	1
4-Bromofluorobenzene (Surr)	98	70 - 120	04/10/15 17:15	04/17/15 13:02	1
Dibromofluoromethane (Surr)	104	75 - 132	04/10/15 17:15	04/15/15 22:30	1
Dibromofluoromethane (Surr)	95	75 - 132	04/10/15 17:15	04/17/15 13:02	1

Method: 8260C - Volatile Orga	nic Compounds	by GC/MS -	DL2						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	180		5.3	0.32	mg/Kg		04/10/15 17:15	04/17/15 14:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120				04/10/15 17:15	04/17/15 14:38	1
1,2-Dichloroethane-d4 (Surr)	93		71 - 136				04/10/15 17:15	04/17/15 14:38	1
4-Bromofluorobenzene (Surr)	100		70 - 120				04/10/15 17:15	04/17/15 14:38	1
Dibromofluoromethane (Surr)	97		75 - 132				04/10/15 17:15	04/17/15 14:38	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.66		0.012	0.0025	mg/Kg		04/09/15 13:32	04/10/15 23:05	1
2-Methylnaphthalene	0.30		0.0062	0.0015	mg/Kg	₩	04/09/15 13:32	04/10/15 23:05	1
1-Methylnaphthalene	0.13		0.012	0.0018	mg/Kg	₩	04/09/15 13:32	04/10/15 23:05	1
Acenaphthylene	0.0058	J	0.0062	0.00060	mg/Kg	₩	04/09/15 13:32	04/10/15 23:05	1

Client: URS Corporation

Project/Site: Mecox

TestAmerica Job ID: 580-48652-1

SDG: Crown Cork & Seal

Client Sample ID: HDW-3A -9 Lab Sample ID: 580-48652-1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.0029	J	0.0062	0.00095	mg/Kg	*	04/09/15 13:32	04/10/15 23:05	1
Fluorene	0.0079		0.0062	0.00078	mg/Kg	₩	04/09/15 13:32	04/10/15 23:05	1
Phenanthrene	0.044		0.012	0.0018	mg/Kg	₽	04/09/15 13:32	04/10/15 23:05	1
Anthracene	0.0016	J	0.0062	0.00091	mg/Kg	₩	04/09/15 13:32	04/10/15 23:05	1
Fluoranthene	0.014		0.0062	0.0011	mg/Kg	₩	04/09/15 13:32	04/10/15 23:05	1
Pyrene	0.011	J	0.012	0.0018	mg/Kg	*	04/09/15 13:32	04/10/15 23:05	1
Benzo[a]anthracene	0.0046	J	0.012	0.0018	mg/Kg	₩	04/09/15 13:32	04/10/15 23:05	1
Chrysene	0.022		0.0062	0.0011	mg/Kg	₽	04/09/15 13:32	04/10/15 23:05	1
Benzo[b]fluoranthene	0.0048	J	0.012	0.0018	mg/Kg	\$	04/09/15 13:32	04/10/15 23:05	1
Benzo[k]fluoranthene	0.0020	J	0.012	0.0018	mg/Kg	₽	04/09/15 13:32	04/10/15 23:05	1
Benzo[a]pyrene	ND		0.0062	0.0011	mg/Kg	₽	04/09/15 13:32	04/10/15 23:05	1
Indeno[1,2,3-cd]pyrene	0.0015	J	0.0062	0.0011	mg/Kg	*	04/09/15 13:32	04/10/15 23:05	1
Dibenz(a,h)anthracene	ND		0.0062	0.0011	mg/Kg	₽	04/09/15 13:32	04/10/15 23:05	1
Benzo[g,h,i]perylene	0.0018	J	0.012	0.0018	mg/Kg	₩	04/09/15 13:32	04/10/15 23:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	66		42 - 151				04/09/15 13:32	04/10/15 23:05	1
Method: 8270D - Semivolatile	Organic Compou	nds (GC/MS	S)						
Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate		В	3.7	0.31	mg/Kg	<u> </u>	04/09/15 13:32	04/16/15 12:24	5
Butyl benzyl phthalate	ND		1.2	0.31	mg/Kg	☼	04/09/15 13:32	04/16/15 12:24	5

Allalyte	Result	Qualifier	IXL.	MIDL	Oilit		riepareu	Allalyzeu	Diriac
Bis(2-ethylhexyl) phthalate	22	В	3.7	0.31	mg/Kg	₩	04/09/15 13:32	04/16/15 12:24	5
Butyl benzyl phthalate	ND		1.2	0.31	mg/Kg	₽	04/09/15 13:32	04/16/15 12:24	5
Diethyl phthalate	0.29	J	1.2	0.092	mg/Kg	₽	04/09/15 13:32	04/16/15 12:24	5
Dimethyl phthalate	ND		0.62	0.031	mg/Kg	₽	04/09/15 13:32	04/16/15 12:24	5
Di-n-butyl phthalate	ND		3.1	0.31	mg/Kg	₽	04/09/15 13:32	04/16/15 12:24	5
Di-n-octyl phthalate	ND		3.1	0.031	mg/Kg	₽	04/09/15 13:32	04/16/15 12:24	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	42		28 - 143				04/09/15 13:32	04/16/15 12:24	5
2-Fluorobiphenyl	65		42 - 140				04/09/15 13:32	04/16/15 12:24	5
2-Fluorophenol (Surr)	68		36 - 145				04/09/15 13:32	04/16/15 12:24	5
Nitrobenzene-d5 (Surr)	73		38 - 141				04/09/15 13:32	04/16/15 12:24	5
Phenol-d5 (Surr)	80		38 - 149				04/09/15 13:32	04/16/15 12:24	5

Method: NWTPH-Gx - Northwe	st - Volatile Petro	oleum Prod	lucts (GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	13000		57	7.1	mg/Kg	\	04/09/15 16:48	04/09/15 22:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	525	X	50 - 150				04/09/15 16:48	04/09/15 22:14	1

42 - 151

Terphenyl-d14 (Surr)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.013	0.0041	mg/Kg	₩	04/08/15 13:57	04/09/15 22:01	1
PCB-1221	ND		0.014	0.010	mg/Kg	₽	04/08/15 13:57	04/09/15 22:01	1
PCB-1232	ND		0.014	0.0089	mg/Kg	₽	04/08/15 13:57	04/09/15 22:01	1
PCB-1242	ND		0.013	0.0027	mg/Kg	₽	04/08/15 13:57	04/09/15 22:01	1
PCB-1248	ND		0.013	0.0038	mg/Kg	₽	04/08/15 13:57	04/09/15 22:01	1
PCB-1254	ND		0.013	0.0027	mg/Kg	₽	04/08/15 13:57	04/09/15 22:01	1
PCB-1260	ND		0.013	0.0038	mg/Kg		04/08/15 13:57	04/09/15 22:01	1

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Client: URS Corporation

Percent Solids

Percent Moisture

TestAmerica Job ID: 580-48652-1 Project/Site: Mecox SDG: Crown Cork & Seal

Client Sample ID: HDW-3A -9 Lab Sample ID: 580-48652-1

Date Collected: 04/03/15 09:30 Matrix: Solid Date Received: 04/03/15 14:10 Percent Solids: 75.1

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	84		45 - 135				04/08/15 13:57	04/09/15 22:01	1
DCB Decachlorobiphenyl	92		50 _ 140				04/08/15 13:57	04/09/15 22:01	1
Method: NWTPH-Dx - Northwest -	Semi-Volatile	Petroleun	Products (GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	84	Y	33	4.7	mg/Kg		04/14/15 13:21	04/15/15 17:25	1
Motor Oil (>C24-C36)	150	Y	65	12	mg/Kg	₩	04/14/15 13:21	04/15/15 17:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	82		50 - 150				04/14/15 13:21	04/15/15 17:25	1
Method: 6020 - Metals (ICP/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.5		0.63	0.23	mg/Kg	*	04/08/15 15:34	04/09/15 01:54	10
Barium	95		0.63	0.098	mg/Kg	₽	04/08/15 15:34	04/09/15 01:54	10
Cadmium	0.33		0.25	0.024	mg/Kg	₽	04/08/15 15:34	04/09/15 01:54	10
Chromium	11		0.63	0.079	mg/Kg	₽	04/08/15 15:34	04/09/15 01:54	10
Copper	23		0.50	0.12	mg/Kg	₽	04/08/15 15:34	04/09/15 01:54	10
Lead	210		0.63	0.060	mg/Kg	₽	04/08/15 15:34	04/09/15 01:54	10
Nickel	12		0.63	0.10	mg/Kg	₽	04/08/15 15:34	04/09/15 01:54	10
Selenium	0.47	J	1.3	0.25	mg/Kg	₽	04/08/15 15:34	04/09/15 01:54	10
Silver	0.055	J	0.25	0.015	mg/Kg	₽	04/08/15 15:34	04/09/15 01:54	10
Method: 7471A - Mercury (CVAA)									
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	17		2.0	0.61	mg/Kg	*	04/13/15 11:27	04/13/15 17:11	100
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fa

0.10

0.10

75

25

0.10 %

0.10 %

04/10/15 10:26

04/10/15 10:26

Client: URS Corporation TestAmerica Job ID: 580-48652-1
Project/Site: Mecox SDG: Crown Cork & Seal

Client Sample ID: HDW-3A -16

Date Collected: 04/03/15 09:45

Lab Sample ID: 580-48652-2

Matrix: Solid

Date Received: 04/03/15 14:10 Percent Solids: 91.9

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	0.043	0.0070	mg/Kg	<u> </u>	04/10/15 17:15	04/17/15 12:01	1
Chloromethane	ND	0.11	0.011	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	1
Vinyl chloride	ND	0.017	0.0077	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	1
Bromomethane	ND	0.15	0.015	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	1
Chloroethane	ND	0.43	0.017	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	1
Trichlorofluoromethane	ND	0.043	0.0064	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	1
1,1-Dichloroethene	ND	0.022	0.0053	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	1
Carbon disulfide	ND	0.043	0.0048	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	1
Acetone	ND	0.87	0.19	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	1
Methylene Chloride	ND	0.027	0.012	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	1
Methyl tert-butyl ether	ND	0.043	0.0065	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	1
trans-1,2-Dichloroethene	ND	0.043	0.0041	mg/Kg	≎	04/10/15 17:15	04/17/15 12:01	1
1,1-Dichloroethane	ND	0.043	0.0045	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	1
2,2-Dichloropropane	ND	0.043	0.0052	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	1
cis-1,2-Dichloroethene	ND	0.043	0.0053	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	1
2-Butanone (MEK)	ND	0.43	0.056	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	1
Bromochloromethane	ND	0.043	0.0050	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	1
Chloroform	ND	0.043	0.0045	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	1
1,1,1-Trichloroethane	0.0089 J	0.043	0.0061	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	1
Carbon tetrachloride	ND	0.022	0.0041	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	1
1,1-Dichloropropene	ND	0.043	0.0057	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	
Benzene	ND	0.017	0.0038	mg/Kg		04/10/15 17:15	04/17/15 12:01	1
1,2-Dichloroethane	ND	0.017	0.0036	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	1
Trichloroethene	ND	0.026	0.0034	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	1
1,2-Dichloropropane	ND	0.013	0.0026	mg/Kg	\$	04/10/15 17:15	04/17/15 12:01	1
Dibromomethane	ND	0.065	0.014	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	1
Bromodichloromethane	ND	0.043	0.0015	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	
cis-1,3-Dichloropropene	ND	0.017	0.0019	mg/Kg		04/10/15 17:15	04/17/15 12:01	1
4-Methyl-2-pentanone (MIBK)	ND	0.22	0.032	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	
Toluene	0.0042 J	0.043	0.0028	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	1
trans-1,3-Dichloropropene	ND	0.043	0.0076	mg/Kg		04/10/15 17:15	04/17/15 12:01	1
1,1,2-Trichloroethane	ND	0.013	0.0030	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	1
Tetrachloroethene	0.0059 J	0.022	0.0057	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	1
1,3-Dichloropropane	ND	0.043	0.0060	mg/Kg		04/10/15 17:15	04/17/15 12:01	1
2-Hexanone	ND	0.22	0.039	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	1
Dibromochloromethane	ND	0.022	0.0030	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	1
1,2-Dibromoethane	ND	0.017	0.0037			04/10/15 17:15	04/17/15 12:01	1
Chlorobenzene	ND	0.043	0.011	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	1
1,1,1,2-Tetrachloroethane	ND	0.043	0.0041		₩	04/10/15 17:15	04/17/15 12:01	1
Ethylbenzene	ND	0.043	0.0022			04/10/15 17:15	04/17/15 12:01	1
m,p-Xylene	0.036 J	0.043	0.0032		₽	04/10/15 17:15	04/17/15 12:01	1
o-Xylene	0.020 J	0.043	0.0032		₩	04/10/15 17:15	04/17/15 12:01	1
Styrene	ND	0.043	0.0026		· · · · · · · · · · · · · · ·	04/10/15 17:15	04/17/15 12:01	
Bromoform	ND	0.043	0.0070		₽	04/10/15 17:15	04/17/15 12:01	1
Isopropylbenzene	ND	0.043	0.0028		₽	04/10/15 17:15	04/17/15 12:01	1
Bromobenzene	ND	0.043	0.0026			04/10/15 17:15	04/17/15 12:01	
1,1,2,2-Tetrachloroethane	ND	0.011	0.0025		☼	04/10/15 17:15	04/17/15 12:01	1
1,2,3-Trichloropropane	ND	0.043		mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	1
N-Propylbenzene	ND	0.043	0.0028		 \$	04/10/15 17:15	04/17/15 12:01	

TestAmerica Seattle

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Client: URS Corporation TestAmerica Job ID: 580-48652-1 Project/Site: Mecox SDG: Crown Cork & Seal

Client Sample ID: HDW-3A -16

Lab Sample ID: 580-48652-2 Date Collected: 04/03/15 09:45 Matrix: Solid Date Received: 04/03/15 14:10

Percent Solids: 91.9

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
2-Chlorotoluene	ND		0.043	0.0037	mg/Kg	<u> </u>	04/10/15 17:15	04/17/15 12:01	
4-Chlorotoluene	ND		0.043	0.0032	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	
tert-Butylbenzene	ND		0.043	0.0034	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	
1,2,4-Trimethylbenzene	0.29		0.043	0.0026	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	
sec-Butylbenzene	0.035	J	0.043	0.0030	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	
p-Isopropyltoluene	ND		0.043	0.0030	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	
1,3-Dichlorobenzene	ND		0.065	0.011	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	
1,4-Dichlorobenzene	ND		0.065	0.012	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	
n-Butylbenzene	ND		0.043	0.0038	mg/Kg	\$	04/10/15 17:15	04/17/15 12:01	
1,2-Dichlorobenzene	ND		0.043	0.013	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	
1,2-Dibromo-3-Chloropropane	ND		0.22	0.0028	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	
1,2,4-Trichlorobenzene	ND		0.043	0.0042	mg/Kg	\$	04/10/15 17:15	04/17/15 12:01	
Hexachlorobutadiene	ND		0.087	0.020	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	
Naphthalene	ND		0.043	0.0038	mg/Kg	₽	04/10/15 17:15	04/17/15 12:01	
1,2,3-Trichlorobenzene	ND		0.043	0.0034	mg/Kg	₩	04/10/15 17:15	04/17/15 12:01	
1,3,5-Trimethylbenzene	0.11		0.043	0.0031	mg/Kg	\$	04/10/15 17:15	04/17/15 12:01	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
Toluene-d8 (Surr)	99		80 - 120				04/10/15 17:15	04/17/15 12:01	
1,2-Dichloroethane-d4 (Surr)	97		71 - 136				04/10/15 17:15	04/17/15 12:01	
4-Bromofluorobenzene (Surr)	108		70 - 120				04/10/15 17:15	04/17/15 12:01	
Dibromofluoromethane (Surr)	95		75 - 132				04/10/15 17:15	04/17/15 12:01	
Method: NWTPH-Gx - Northwe	est - Volatile Petro	oleum Prod	ucts (GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline	80		4.3	0.54	mg/Kg	\	04/09/15 16:48	04/09/15 20:41	
Surrogate	%Recovery		Limits				Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	161	X	50 - 150				04/09/15 16:48	04/09/15 20:41	
Method: NWTPH-Dx - Northwe	est - Semi-Volatile	e Petroleum	Products (GC))					
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
#2 Diesel (C10-C24)	940	Y	26	3.8	mg/Kg	-	04/14/15 13:21	04/15/15 18:01	
Motor Oil (>C24-C36)	780	Y	52	9.5	mg/Kg	₩	04/14/15 13:21	04/15/15 18:01	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
o-Terphenyl	82		50 - 150				04/14/15 13:21	04/15/15 18:01	
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fa
Percent Solids	92		0.10	0.10	%			04/16/15 13:43	
reiteilt sollas	32		0	0				0 17 107 10 101 10	

Client: URS Corporation TestAmerica Job ID: 580-48652-1
Project/Site: Mecox SDG: Crown Cork & Seal

Client Sample ID: HDW-3B -12 Lab Sample ID: 580-48652-3

 Date Collected: 04/03/15 10:00
 Matrix: Solid

 Date Received: 04/03/15 14:10
 Percent Solids: 92.3

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	0.043	0.0069	mg/Kg		04/10/15 17:15	04/17/15 12:31	1
Chloromethane	ND	0.11	0.011	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
Vinyl chloride	ND	0.017	0.0076	mg/Kg	₩	04/10/15 17:15	04/17/15 12:31	1
Bromomethane	ND	0.15	0.014	mg/Kg	₩	04/10/15 17:15	04/17/15 12:31	1
Chloroethane	ND	0.43	0.017	mg/Kg	₩	04/10/15 17:15	04/17/15 12:31	1
Trichlorofluoromethane	ND	0.043	0.0063	mg/Kg	₩	04/10/15 17:15	04/17/15 12:31	1
1,1-Dichloroethene	ND	0.021	0.0052	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
Carbon disulfide	ND	0.043	0.0047	mg/Kg	₩	04/10/15 17:15	04/17/15 12:31	1
Acetone	ND	0.85	0.19	mg/Kg	≎	04/10/15 17:15	04/17/15 12:31	1
Methylene Chloride	ND	0.027	0.012	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
Methyl tert-butyl ether	ND	0.043	0.0064	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
trans-1,2-Dichloroethene	ND	0.043	0.0040	mg/Kg	≎	04/10/15 17:15	04/17/15 12:31	1
1,1-Dichloroethane	ND	0.043	0.0045	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
2,2-Dichloropropane	ND	0.043	0.0051	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
cis-1,2-Dichloroethene	ND	0.043	0.0052	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
2-Butanone (MEK)	ND	0.43	0.056	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
Bromochloromethane	ND	0.043	0.0049	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
Chloroform	ND	0.043	0.0045	mg/Kg	₩	04/10/15 17:15	04/17/15 12:31	1
1,1,1-Trichloroethane	0.016 J	0.043	0.0060	mg/Kg		04/10/15 17:15	04/17/15 12:31	1
Carbon tetrachloride	ND	0.021	0.0040	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
1,1-Dichloropropene	ND	0.043	0.0056	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
Benzene	ND	0.017	0.0037	mg/Kg		04/10/15 17:15	04/17/15 12:31	1
1,2-Dichloroethane	ND	0.017	0.0035	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
Trichloroethene	ND	0.026	0.0033	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
1,2-Dichloropropane	ND	0.013	0.0026	mg/Kg	\$	04/10/15 17:15	04/17/15 12:31	1
Dibromomethane	ND	0.064	0.014	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
Bromodichloromethane	ND	0.043	0.0015	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
cis-1,3-Dichloropropene	ND	0.017	0.0019	mg/Kg	\$	04/10/15 17:15	04/17/15 12:31	1
4-Methyl-2-pentanone (MIBK)	ND	0.21	0.031	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
Toluene	ND	0.043	0.0028	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
trans-1,3-Dichloropropene	ND	0.043	0.0075	mg/Kg		04/10/15 17:15	04/17/15 12:31	1
1,1,2-Trichloroethane	ND	0.013	0.0030	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
Tetrachloroethene	ND	0.021	0.0056	mg/Kg	₩	04/10/15 17:15	04/17/15 12:31	1
1,3-Dichloropropane	ND	0.043	0.0059	mg/Kg		04/10/15 17:15	04/17/15 12:31	1
2-Hexanone	ND	0.21	0.038	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
Dibromochloromethane	ND	0.021	0.0030	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
1,2-Dibromoethane	ND	0.017	0.0036			04/10/15 17:15	04/17/15 12:31	1
Chlorobenzene	ND	0.043		mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
1,1,1,2-Tetrachloroethane	ND	0.043	0.0040		₽	04/10/15 17:15	04/17/15 12:31	1
Ethylbenzene	ND	0.043	0.0021			04/10/15 17:15	04/17/15 12:31	1
m,p-Xylene	ND	0.043	0.0032		₽	04/10/15 17:15	04/17/15 12:31	1
o-Xylene	ND	0.043	0.0032		₽	04/10/15 17:15	04/17/15 12:31	1
Styrene	ND	0.043	0.0026			04/10/15 17:15	04/17/15 12:31	1
Bromoform	ND	0.043	0.0069		₩	04/10/15 17:15	04/17/15 12:31	1
Isopropylbenzene	ND	0.043	0.0028		₽	04/10/15 17:15	04/17/15 12:31	1
Bromobenzene	ND	0.043	0.0026			04/10/15 17:15	04/17/15 12:31	
1,1,2,2-Tetrachloroethane	ND	0.011	0.0024		₽	04/10/15 17:15	04/17/15 12:31	1
1,2,3-Trichloropropane	ND	0.043		mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
N-Propylbenzene	ND ND	0.043	0.0028			04/10/15 17:15	04/17/15 12:31	

TestAmerica Seattle

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Client: URS Corporation TestAmerica Job ID: 580-48652-1 Project/Site: Mecox SDG: Crown Cork & Seal

Client Sample ID: HDW-3B -12 Lab Sample ID: 580-48652-3

Date Collected: 04/03/15 10:00 Matrix: Solid Date Received: 04/03/15 14:10 Percent Solids: 92.3

Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		0.043	0.0036	mg/Kg		04/10/15 17:15	04/17/15 12:31	1
4-Chlorotoluene	ND		0.043	0.0032	mg/Kg	₩	04/10/15 17:15	04/17/15 12:31	1
tert-Butylbenzene	ND		0.043	0.0033	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
1,2,4-Trimethylbenzene	0.023	J	0.043	0.0026	mg/Kg	₩	04/10/15 17:15	04/17/15 12:31	1
sec-Butylbenzene	0.012	J	0.043	0.0030	mg/Kg	₩	04/10/15 17:15	04/17/15 12:31	1
p-Isopropyltoluene	0.018	J	0.043	0.0030	mg/Kg	₩	04/10/15 17:15	04/17/15 12:31	1
1,3-Dichlorobenzene	ND		0.064	0.011	mg/Kg	₩	04/10/15 17:15	04/17/15 12:31	1
1,4-Dichlorobenzene	ND		0.064	0.012	mg/Kg	₩	04/10/15 17:15	04/17/15 12:31	1
n-Butylbenzene	ND		0.043	0.0037	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
1,2-Dichlorobenzene	ND		0.043	0.013	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
1,2-Dibromo-3-Chloropropane	ND		0.21	0.0028	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
1,2,4-Trichlorobenzene	ND		0.043	0.0042	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
Hexachlorobutadiene	ND		0.085	0.019	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
Naphthalene	ND		0.043	0.0037	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
1,2,3-Trichlorobenzene	ND		0.043	0.0033	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
1,3,5-Trimethylbenzene	0.019	J	0.043	0.0031	mg/Kg	₽	04/10/15 17:15	04/17/15 12:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120				04/10/15 17:15	04/17/15 12:31	1
1,2-Dichloroethane-d4 (Surr)	95		71 - 136				04/10/15 17:15	04/17/15 12:31	1
4-Bromofluorobenzene (Surr)	100		70 - 120				04/10/15 17:15	04/17/15 12:31	1
Dibromofluoromethane (Surr)	99		75 - 132				04/10/15 17:15	04/17/15 12:31	1
Method: NWTPH-Gx - Northw	est - Volatile Petr	oleum Prod	ucts (GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	11		4.3	0.53	mg/Kg	#	04/09/15 16:48	04/09/15 21:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		50 - 150				04/09/15 16:48	04/09/15 21:12	1
Method: NWTPH-Dx - Northwo	est - Semi-Volatile	Petroleum	Products (GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	7.6	J	25	3.7	mg/Kg	<u> </u>	04/14/15 13:21	04/15/15 18:19	1
Motor Oil (>C24-C36)	31	J	51	9.3	mg/Kg	₽	04/14/15 13:21	04/15/15 18:19	1
WIOLOT OII (~024-030)							Duamawad	A l	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
,		Qualifier	Limits 50 - 150				04/14/15 13:21	04/15/15 18:19	Dil Fac
Surrogate	<u>·</u>	Qualifier							
Surrogate o-Terphenyl	85	Qualifier Qualifier		RL	Unit	D			Dil Fac
Surrogate o-Terphenyl General Chemistry	85	·	50 - 150	RL 0.10		<u>D</u>	04/14/15 13:21	04/15/15 18:19	1

04/16/15 13:43

0.10

0.10 %

7.7

Percent Moisture

Client: URS Corporation TestAmerica Job ID: 580-48652-1
Project/Site: Mecox SDG: Crown Cork & Seal

Client Sample ID: HDW-3B -18

Date Collected: 04/03/15 10:30

Lab Sample ID: 580-48652-4

Matrix: Solid

Date Received: 04/03/15 14:10 Percent Solids: 90.5

Analyte	Result Qualifier	RL	MDL		D	Prepared	Analyzed	Dil F
Dichlorodifluoromethane	ND	0.044	0.0071	mg/Kg	‡	04/10/15 17:15	04/16/15 00:34	
Chloromethane	ND	0.11	0.011	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	
Vinyl chloride	ND	0.018	0.0078	mg/Kg		04/10/15 17:15	04/16/15 00:34	
Bromomethane	ND	0.15	0.015	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	
Chloroethane	ND	0.44	0.017	mg/Kg	₩	04/10/15 17:15	04/16/15 00:34	
Trichlorofluoromethane	ND	0.044	0.0065	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	
1,1-Dichloroethene	ND	0.022	0.0054	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	
Carbon disulfide	ND	0.044	0.0048	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	
Acetone	ND	0.88	0.19	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	
Methylene Chloride	ND	0.027	0.013	mg/Kg	\$	04/10/15 17:15	04/16/15 00:34	
Methyl tert-butyl ether	ND	0.044	0.0066	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	
rans-1,2-Dichloroethene	ND	0.044	0.0042	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	
1,1-Dichloroethane	ND	0.044	0.0046	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	
2,2-Dichloropropane	ND	0.044	0.0053	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	
cis-1,2-Dichloroethene	ND	0.044	0.0054	mg/Kg	☼	04/10/15 17:15	04/16/15 00:34	
2-Butanone (MEK)	ND	0.44	0.057	mg/Kg	\$	04/10/15 17:15	04/16/15 00:34	
Bromochloromethane	ND	0.044	0.0050	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	
Chloroform	ND	0.044	0.0046	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	
I,1,1-Trichloroethane	ND	0.044	0.0061	mg/Kg		04/10/15 17:15	04/16/15 00:34	
Carbon tetrachloride	ND	0.022	0.0042	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	
,1-Dichloropropene	ND	0.044	0.0058		₽	04/10/15 17:15	04/16/15 00:34	
Benzene	ND	0.018	0.0038			04/10/15 17:15	04/16/15 00:34	
,2-Dichloroethane	ND	0.018	0.0036		₽	04/10/15 17:15	04/16/15 00:34	
Frichloroethene	ND	0.026	0.0034		₽	04/10/15 17:15	04/16/15 00:34	
I,2-Dichloropropane	ND	0.013	0.0026			04/10/15 17:15	04/16/15 00:34	
Dibromomethane	ND	0.066		mg/Kg	₩	04/10/15 17:15	04/16/15 00:34	
Bromodichloromethane	ND	0.044	0.0015		₽	04/10/15 17:15	04/16/15 00:34	
sis-1,3-Dichloropropene	ND	0.018	0.0020	mg/Kg		04/10/15 17:15	04/16/15 00:34	
I-Methyl-2-pentanone (MIBK)	ND	0.22		mg/Kg	₩	04/10/15 17:15	04/16/15 00:34	
	0.0028 J	0.044	0.0028	mg/Kg	₩	04/10/15 17:15	04/16/15 00:34	
Foluene rans-1,3-Dichloropropene	0.0028 J	0.044	0.0028			04/10/15 17:15	04/16/15 00:34	
1,1,2-Trichloroethane	ND	0.044	0.0077		₩	04/10/15 17:15	04/16/15 00:34	
	ND ND			mg/Kg				
Tetrachloroethene		0.022	0.0058			04/10/15 17:15	04/16/15 00:34	
I,3-Dichloropropane	ND ND	0.044 0.22		mg/Kg mg/Kg		04/10/15 17:15 04/10/15 17:15	04/16/15 00:34 04/16/15 00:34	
2-Hexanone					~ ☆			
Dibromochloromethane	ND	0.022	0.0031			04/10/15 17:15	04/16/15 00:34	
,2-Dibromoethane	ND	0.018	0.0037		₽	04/10/15 17:15	04/16/15 00:34	
Chlorobenzene	ND	0.044		mg/Kg	\$	04/10/15 17:15	04/16/15 00:34	
,1,1,2-Tetrachloroethane	ND	0.044	0.0042		J	04/10/15 17:15	04/16/15 00:34	
Ethylbenzene	ND	0.044	0.0022			04/10/15 17:15	04/16/15 00:34	
n,p-Xylene	0.0042 J	0.044	0.0033			04/10/15 17:15	04/16/15 00:34	
o-Xylene	ND	0.044	0.0033		<u></u> .	04/10/15 17:15	04/16/15 00:34	
Styrene	ND	0.044	0.0026			04/10/15 17:15	04/16/15 00:34	
Bromoform	ND	0.044	0.0071		₩	04/10/15 17:15	04/16/15 00:34	
sopropylbenzene	ND	0.044	0.0028		<u>.</u>	04/10/15 17:15	04/16/15 00:34	
Bromobenzene	ND	0.044	0.0026		‡	04/10/15 17:15	04/16/15 00:34	
,1,2,2-Tetrachloroethane	ND	0.011	0.0025	mg/Kg	*	04/10/15 17:15	04/16/15 00:34	
,2,3-Trichloropropane	ND	0.044	0.013	mg/Kg	₩	04/10/15 17:15	04/16/15 00:34	

TestAmerica Seattle

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Client: URS Corporation TestAmerica Job ID: 580-48652-1 Project/Site: Mecox SDG: Crown Cork & Seal

Lab Sample ID: 580-48652-4

Client Sample ID: HDW-3B -18 Date Collected: 04/03/15 10:30 Matrix: Solid Date Received: 04/03/15 14:10

Percent Solids: 90.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		0.044	0.0037	mg/Kg		04/10/15 17:15	04/16/15 00:34	1
4-Chlorotoluene	ND		0.044	0.0033	mg/Kg	₩	04/10/15 17:15	04/16/15 00:34	1
tert-Butylbenzene	ND		0.044	0.0034	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	1
1,2,4-Trimethylbenzene	0.0098	J	0.044	0.0026	mg/Kg	₩	04/10/15 17:15	04/16/15 00:34	1
sec-Butylbenzene	ND		0.044	0.0031	mg/Kg	₩	04/10/15 17:15	04/16/15 00:34	1
p-Isopropyltoluene	ND		0.044	0.0031	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	1
1,3-Dichlorobenzene	ND		0.066	0.012	mg/Kg	₩	04/10/15 17:15	04/16/15 00:34	1
1,4-Dichlorobenzene	ND		0.066	0.012	mg/Kg	₩	04/10/15 17:15	04/16/15 00:34	1
n-Butylbenzene	ND		0.044	0.0038	mg/Kg	\$	04/10/15 17:15	04/16/15 00:34	
1,2-Dichlorobenzene	ND	F1	0.044	0.013	mg/Kg	₩	04/10/15 17:15	04/16/15 00:34	1
1,2-Dibromo-3-Chloropropane	ND		0.22	0.0028	mg/Kg	₩	04/10/15 17:15	04/16/15 00:34	1
1,2,4-Trichlorobenzene	ND		0.044	0.0043	mg/Kg	\$	04/10/15 17:15	04/16/15 00:34	1
Hexachlorobutadiene	ND		0.088	0.020	mg/Kg	₩	04/10/15 17:15	04/16/15 00:34	1
Naphthalene	0.0067	J	0.044	0.0038	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	1
1,2,3-Trichlorobenzene	ND		0.044	0.0034	mg/Kg	₽	04/10/15 17:15	04/16/15 00:34	1
1,3,5-Trimethylbenzene	0.0039	J	0.044	0.0032	mg/Kg	₩	04/10/15 17:15	04/16/15 00:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 120				04/10/15 17:15	04/16/15 00:34	1
1,2-Dichloroethane-d4 (Surr)	96		71 - 136				04/10/15 17:15	04/16/15 00:34	1
4-Bromofluorobenzene (Surr)	98		70 - 120				04/10/15 17:15	04/16/15 00:34	
Dibromofluoromethane (Surr)	95		75 - 132				04/10/15 17:15		
-			75 - 152				04/10/13 17.13	04/16/15 00:34	1
: Method: NWTPH-Gx - Northwest - N	/olatile Petro	oleum Prod					04/10/15 17.15	04/16/15 00:34	1
		oleum Prod Qualifier		MDL	Unit	D	Prepared	04/16/15 00:34 Analyzed	
Analyte		Qualifier	ucts (GC)		Unit mg/Kg	<u> </u>			Dil Fac
Analyte Gasoline	Result	Qualifier	ucts (GC)				Prepared	Analyzed	Dil Fac
Analyte	Result 2.2	Qualifier J	ucts (GC) RL 4.4				Prepared 04/09/15 16:48	Analyzed 04/09/15 21:43	Dil Fac
Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr)	Result 2.2 %Recovery 97	Qualifier J Qualifier	ucts (GC) RL 4.4 Limits 50 - 150	0.55			Prepared 04/09/15 16:48 Prepared	Analyzed 04/09/15 21:43 Analyzed	Dil Fac
Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Method: NWTPH-Dx - Northwest - S	Result 2.2 %Recovery 97 Semi-Volatile	Qualifier J Qualifier	ucts (GC) RL 4.4 Limits 50 - 150	0.55	mg/Kg		Prepared 04/09/15 16:48 Prepared	Analyzed 04/09/15 21:43 Analyzed	Dil Fac
Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Method: NWTPH-Dx - Northwest - S Analyte	Result 2.2 %Recovery 97 Semi-Volatile	Qualifier Qualifier Qualifier Petroleum	ucts (GC) RL 4.4 Limits 50 - 150 Products (GC)	0.55	mg/Kg	<u> </u>	Prepared 04/09/15 16:48 Prepared 04/09/15 16:48	Analyzed 04/09/15 21:43 Analyzed 04/09/15 21:43	Dil Fac
Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Method: NWTPH-Dx - Northwest - S Analyte #2 Diesel (C10-C24)	Result 2.2 %Recovery 97 Semi-Volatile Result ND	Qualifier Qualifier Qualifier Petroleum	ucts (GC) RL 4.4 Limits 50 - 150 Products (GC) RL	0.55) MDL 3.8	mg/Kg	\overline{\pi}	Prepared 04/09/15 16:48 Prepared 04/09/15 16:48 Prepared	Analyzed 04/09/15 21:43 Analyzed 04/09/15 21:43 Analyzed	Dil Fac
Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Method: NWTPH-Dx - Northwest - S Analyte #2 Diesel (C10-C24) Motor Oil (>C24-C36)	Result 2.2 %Recovery 97 Semi-Volatile Result ND	Qualifier Qualifier Petroleum Qualifier J	ucts (GC) RL 4.4 Limits 50 - 150 Products (GC) RL 26	0.55) MDL 3.8	mg/Kg Unit mg/Kg		Prepared 04/09/15 16:48 Prepared 04/09/15 16:48 Prepared 04/14/15 13:21	Analyzed 04/09/15 21:43 Analyzed 04/09/15 21:43 Analyzed 04/15/15 18:38	Dil Fac
Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Method: NWTPH-Dx - Northwest - S Analyte #2 Diesel (C10-C24) Motor Oil (>C24-C36) Surrogate	Result 2.2 %Recovery 97 Semi-Volatile Result ND 10	Qualifier Qualifier Petroleum Qualifier J	Limits 50 - 150 Products (GC) RL 4.4 Limits 50 - 20 RL 26 53	0.55) MDL 3.8	mg/Kg Unit mg/Kg		Prepared 04/09/15 16:48 Prepared 04/09/15 16:48 Prepared 04/14/15 13:21 04/14/15 13:21	Analyzed 04/09/15 21:43 Analyzed 04/09/15 21:43 Analyzed 04/15/15 18:38 04/15/15 18:38	Dil Fac
Analyte Gasoline Surrogate 4-Bromofluorobenzene (Surr) Method: NWTPH-Dx - Northwest - S Analyte #2 Diesel (C10-C24) Motor Oil (>C24-C36) Surrogate o-Terphenyl	Result 2.2 %Recovery 97 Semi-Volatile Result ND 10 %Recovery	Qualifier Qualifier Petroleum Qualifier J	Limits (GC) RL 4.4 Limits 50 - 150 Products (GC) RL 26 53 Limits	0.55) MDL 3.8	mg/Kg Unit mg/Kg		Prepared 04/09/15 16:48 Prepared 04/09/15 16:48 Prepared 04/14/15 13:21 04/14/15 13:21 Prepared	Analyzed 04/09/15 21:43 Analyzed 04/09/15 21:43 Analyzed 04/15/15 18:38 04/15/15 18:38 Analyzed	Dil Fac
	Result 2.2 %Recovery 97 Semi-Volatile Result ND 10 %Recovery 82	Qualifier Qualifier Petroleum Qualifier J	Limits (GC) RL 4.4 Limits 50 - 150 Products (GC) RL 26 53 Limits	0.55 MDL 3.8 9.6	Unit mg/Kg mg/Kg mg/Kg		Prepared 04/09/15 16:48 Prepared 04/09/15 16:48 Prepared 04/14/15 13:21 04/14/15 13:21 Prepared	Analyzed 04/09/15 21:43 Analyzed 04/09/15 21:43 Analyzed 04/15/15 18:38 04/15/15 18:38 Analyzed	Dil Face Dil Face Dil Face Dil Face Dil Face Dil Face

04/16/15 13:43

0.10

0.10 %

9.5

Percent Moisture

QC Sample Results

TestAmerica Job ID: 580-48652-1 Client: URS Corporation Project/Site: Mecox SDG: Crown Cork & Seal

Method: 8260C - Volatile Organic Compounds by GC/MS

ND

ND

ND

ND

ND

Lab Sample ID: MB 580-186594/1-A

Matrix: Solid

1.1-Dichloroethene

Carbon disulfide

Benzene

1.2-Dichloroethane

Trichloroethene

Analysis Batch: 186928

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 186594

Analyte	Result	Qualifier R	_ MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND	0.04	0.0065	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
Chloromethane	ND	0.1	0.010	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
Vinyl chloride	ND	0.01	0.0071	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
Bromomethane	ND	0.1	1 0.013	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
Chloroethane	ND	0.4	0.016	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
Trichlorofluoromethane	ND	0.04	0.0059	mg/Kg		04/10/15 16:37	04/15/15 19:26	1

0.020

0.040

0.0049 mg/Kg

0.0044 mg/Kg

0.0035 mg/Kg

0.0033 mg/Kg

04/10/15 16:37 04/15/15 19:26 04/10/15 16:37 04/15/15 19:26 04/10/15 16:37 04/15/15 19:26 04/10/15 16:37 04/15/15 19:26

04/10/15 16:37

04/10/15 16:37

04/10/15 16:37

04/15/15 19:26

04/15/15 19:26

04/15/15 19:26

ND Acetone 0.80 0.17 mg/Kg ND Methylene Chloride 0.025 0.012 mg/Kg 04/10/15 16:37 04/15/15 19:26 Methyl tert-butyl ether ND 0.040 0.0060 mg/Kg 04/10/15 16:37 04/15/15 19:26 trans-1,2-Dichloroethene ND 0.040 0.0038 ma/Ka 04/10/15 16:37 04/15/15 19:26 1 1-Dichloroethane ND 0.040 0.0042 mg/Kg 04/10/15 16:37 04/15/15 19:26 2,2-Dichloropropane ND 0.040 0.0048 mg/Kg 04/10/15 16:37 04/15/15 19:26

cis-1.2-Dichloroethene ND 0.040 0.0049 mg/Kg 04/10/15 16:37 04/15/15 19:26 2-Butanone (MEK) ND 0.40 0.052 mg/Kg 04/10/15 16:37 04/15/15 19:26 Bromochloromethane ND 0.040 0.0046 mg/Kg 04/10/15 16:37 04/15/15 19:26 Chloroform ND 0.040 0.0042 mg/Kg 04/10/15 16:37 04/15/15 19:26 1,1,1-Trichloroethane ND 0.040 0.0056 mg/Kg 04/10/15 16:37 04/15/15 19:26 ND Carbon tetrachloride 0.020 0.0038 mg/Kg 04/10/15 16:37 04/15/15 19:26 1,1-Dichloropropene ND 0.040 0.0053 mg/Kg 04/10/15 16:37 04/15/15 19:26

0.016

0.016

0.024

0.0031 mg/Kg 1,2-Dichloropropane ND 0.012 0.0024 mg/Kg 04/10/15 16:37 04/15/15 19:26 Dibromomethane ND 0.060 0.013 mg/Kg 04/10/15 16:37 04/15/15 19:26 Bromodichloromethane ND 0.040 0.0014 mg/Kg 04/10/15 16:37 04/15/15 19:26 ND 0.016 0.0018 04/10/15 16:37 cis-1.3-Dichloropropene mg/Kg 04/15/15 19:26 4-Methyl-2-pentanone (MIBK) ND 0.20 0.030 mg/Kg 04/10/15 16:37 04/15/15 19:26 ND 0.040 0.0026 04/10/15 16:37 04/15/15 19:26 Toluene ma/Ka trans-1,3-Dichloropropene ND 0.040 0.0070 mg/Kg 04/10/15 16:37 04/15/15 19:26

0.0028 1,1,2-Trichloroethane ND 0.012 ma/Ka 04/10/15 16:37 04/15/15 19:26 Tetrachloroethene ND 0.020 0.0053 mg/Kg 04/10/15 16:37 04/15/15 19:26 1,3-Dichloropropane ND 0.040 0.0055 mg/Kg 04/10/15 16:37 04/15/15 19:26 ND 2-Hexanone 0.20 0.036 mg/Kg 04/10/15 16:37 04/15/15 19:26 ND 0.020 0.0028 04/10/15 16:37 Dibromochloromethane mg/Kg 04/15/15 19:26 ND 0.016 0.0034 1.2-Dibromoethane mg/Kg 04/10/15 16:37 04/15/15 19:26 0.040 0.0098 04/10/15 16:37 04/15/15 19:26 Chlorobenzene ND mg/Kg 1.1.1.2-Tetrachloroethane ND 0.040 04/10/15 16:37 0.0038 mg/Kg 04/15/15 19:26

Ethylbenzene ND 0.040 0.0020 mg/Kg 04/10/15 16:37 04/15/15 19:26 m,p-Xylene ND 0.040 0.0030 mg/Kg 04/10/15 16:37 04/15/15 19:26 o-Xylene ND 0.040 0.0030 mg/Kg 04/10/15 16:37 04/15/15 19:26 ND 0.040 0.0024 04/10/15 16:37 04/15/15 19:26 Styrene mg/Kg ND Bromoform 0.040 0.0065 mg/Kg 04/10/15 16:37 04/15/15 19:26 Isopropylbenzene ND 0.040 0.0026 mg/Kg 04/10/15 16:37 04/15/15 19:26

Bromobenzene ND 0.040 0.0024 ma/Ka 04/10/15 16:37 04/15/15 19:26 1,1,2,2-Tetrachloroethane ND 0.010 0.0023 mg/Kg 04/10/15 16:37 04/15/15 19:26 1,2,3-Trichloropropane ND 0.040 04/10/15 16:37 04/15/15 19:26 0.012 mg/Kg

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

MB MB

Lab Sample ID: MB 580-186594/1-A

Matrix: Solid

Analysis Batch: 186928

Client Sample ID: Method Blank **Prep Type: Total/NA**

Prep Batch: 186594

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		0.040	0.0026	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
2-Chlorotoluene	ND		0.040	0.0034	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
4-Chlorotoluene	ND		0.040	0.0030	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
tert-Butylbenzene	ND		0.040	0.0031	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
1,2,4-Trimethylbenzene	ND		0.040	0.0024	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
sec-Butylbenzene	ND		0.040	0.0028	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
p-Isopropyltoluene	ND		0.040	0.0028	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
1,3-Dichlorobenzene	ND		0.060	0.011	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
1,4-Dichlorobenzene	ND		0.060	0.011	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
n-Butylbenzene	ND		0.040	0.0035	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
1,2-Dichlorobenzene	ND		0.040	0.012	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
1,2-Dibromo-3-Chloropropane	ND		0.20	0.0026	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
1,2,4-Trichlorobenzene	ND		0.040	0.0039	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
Hexachlorobutadiene	ND		0.080	0.018	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
Naphthalene	ND		0.040	0.0035	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
1,2,3-Trichlorobenzene	ND		0.040	0.0031	mg/Kg		04/10/15 16:37	04/15/15 19:26	1
1,3,5-Trimethylbenzene	ND		0.040	0.0029	mg/Kg		04/10/15 16:37	04/15/15 19:26	1

мв мв

Surrogate	%Recovery	Qualifier Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	96	80 - 120	04/10/15 16:37	04/15/15 19:26	1
1,2-Dichloroethane-d4 (Surr)	105	71 - 130	04/10/15 16:37	04/15/15 19:26	1
4-Bromofluorobenzene (Surr)	97	70 - 120	04/10/15 16:37	04/15/15 19:26	1
Dibromofluoromethane (Surr)	97	75 _ 132	2 04/10/15 16:37	04/15/15 19:26	1
	Toluene-d8 (Surr) 1,2-Dichloroethane-d4 (Surr) 4-Bromofluorobenzene (Surr)	Toluene-d8 (Surr) 96 1,2-Dichloroethane-d4 (Surr) 105 4-Bromofluorobenzene (Surr) 97	Toluene-d8 (Surr) 96 80 - 120 1,2-Dichloroethane-d4 (Surr) 105 71 - 136 4-Bromofluorobenzene (Surr) 97 70 - 120	Toluene-d8 (Surr) 96 80 - 120 04/10/15 16:37 1,2-Dichloroethane-d4 (Surr) 105 71 - 136 04/10/15 16:37 4-Bromofluorobenzene (Surr) 97 70 - 120 04/10/15 16:37	Toluene-d8 (Surr) 96 80 - 120 04/10/15 16:37 04/15/15 19:26 1,2-Dichloroethane-d4 (Surr) 105 71 - 136 04/10/15 16:37 04/15/15 19:26 4-Bromofluorobenzene (Surr) 97 70 - 120 04/10/15 16:37 04/15/15 19:26

Lab Sample ID: LCS 580-186594/2-A

Matrix: Solid

Analysis Batch: 186928

Client Sample ID: Lab Control Sample Prep Type: Total/NA **Prep Batch: 186594**

Allarysis Batch. 100320	0. "						•	100054
	Spike		LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Dichlorodifluoromethane	0.800	0.820		mg/Kg		103	38 - 150	
Chloromethane	0.800	0.788		mg/Kg		99	55 ₋ 136	
Vinyl chloride	0.800	0.599		mg/Kg		75	67 - 131	
Bromomethane	0.800	0.638		mg/Kg		80	57 ₋ 148	
Chloroethane	0.800	0.804		mg/Kg		101	48 - 167	
Trichlorofluoromethane	0.800	0.831		mg/Kg		104	47 _ 165	
1,1-Dichloroethene	0.800	0.736		mg/Kg		92	70 _ 133	
Carbon disulfide	0.800	0.755		mg/Kg		94	45 - 160	
Acetone	3.20	2.75		mg/Kg		86	20 - 160	
Methylene Chloride	0.800	0.822		mg/Kg		103	57 ₋ 146	
Methyl tert-butyl ether	0.800	0.855		mg/Kg		107	65 - 125	
trans-1,2-Dichloroethene	0.800	0.725		mg/Kg		91	76 ₋ 131	
1,1-Dichloroethane	0.800	0.790		mg/Kg		99	70 - 128	
2,2-Dichloropropane	0.800	0.789		mg/Kg		99	56 - 144	
cis-1,2-Dichloroethene	0.800	0.779		mg/Kg		97	70 - 130	
2-Butanone (MEK)	3.20	3.40		mg/Kg		106	30 - 160	
Bromochloromethane	0.800	0.864		mg/Kg		108	78 ₋ 123	
Chloroform	0.800	0.833		mg/Kg		104	78 ₋ 125	
1,1,1-Trichloroethane	0.800	0.815		mg/Kg		102	63 _ 135	

QC Sample Results

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-186594/2-A

Matrix: Solid

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 186594

Analysis Batch: 186928	.						Prep Bato	h: 18 <mark>659</mark>
Analysis	Spike		LCS	l lmi4	_	0/ Doc	%Rec.	
Analyte Carbon tetrachloride	Added	0.851	Qualifier	- Unit mg/Kg	_ D	Rec 106	Limits 59 _ 145	
	0.800	0.763				95	77 ₋ 125	
1,1-Dichloropropene Benzene	0.800	0.763		mg/Kg		93	77 - 123 70 - 128	
				mg/Kg				
1,2-Dichloroethane Trichloroethene	0.800 0.800	0.844 0.806		mg/Kg		105	71 - 128	
				mg/Kg		101	83 - 124	
1,2-Dichloropropane	0.800	0.822		mg/Kg		103	76 - 161	
Dibromomethane Promodiable compethane	0.800	0.849		mg/Kg		106	78 ₋ 126	
Bromodichloromethane	0.800	0.915		mg/Kg		114	58 - 133	
cis-1,3-Dichloropropene	0.800	0.880		mg/Kg		110	69 - 129	
4-Methyl-2-pentanone (MIBK)	3.20	3.73		mg/Kg		116	45 ₋ 145	
Toluene	0.800	0.762		mg/Kg		95	75 - 126	
trans-1,3-Dichloropropene	0.800	0.908		mg/Kg		113	72 _ 129	
1,1,2-Trichloroethane	0.800	0.857		mg/Kg		107	77 ₋ 124	
Tetrachloroethene	0.800	0.783		mg/Kg		98	56 - 155	
1,3-Dichloropropane	0.800	0.864		mg/Kg		108	77 - 123	
2-Hexanone	3.20	3.59		mg/Kg		112	45 - 145	
Dibromochloromethane	0.800	0.925		mg/Kg		116	42 - 129	
1,2-Dibromoethane	0.800	0.831		mg/Kg		104	69 - 126	
Chlorobenzene	0.800	0.782		mg/Kg		98	75 - 120	
1,1,1,2-Tetrachloroethane	0.800	0.878		mg/Kg		110	72 - 123	
Ethylbenzene	0.800	0.789		mg/Kg		99	78 - 126	
m,p-Xylene	0.800	0.769		mg/Kg		96	78 ₋ 126	
o-Xylene	0.800	0.809		mg/Kg		101	77 _ 127	
Styrene	0.800	0.891		mg/Kg		111	79 _ 127	
Bromoform	0.800	0.870		mg/Kg		109	50 _ 124	
Isopropylbenzene	0.800	0.773		mg/Kg		97	79 - 127	
Bromobenzene	0.800	0.834		mg/Kg		104	80 - 120	
1,1,2,2-Tetrachloroethane	0.800	0.827		mg/Kg		103	73 - 125	
1,2,3-Trichloropropane	0.800	0.821		mg/Kg		103	77 - 123	
N-Propylbenzene	0.800	0.820		mg/Kg		103	81 _ 127	
2-Chlorotoluene	0.800	0.805		mg/Kg		101	79 - 122	
4-Chlorotoluene	0.800	0.788		mg/Kg		98	80 - 122	
tert-Butylbenzene	0.800	0.826		mg/Kg		103	71 - 136	
1,2,4-Trimethylbenzene	0.800	0.807		mg/Kg		101	79 - 124	
sec-Butylbenzene	0.800	0.795		mg/Kg		99	78 ₋ 128	
p-Isopropyltoluene	0.800	0.751		mg/Kg		94	78 - 126	
1,3-Dichlorobenzene	0.800	0.796		mg/Kg		99	79 - 119	
1,4-Dichlorobenzene	0.800	0.771		mg/Kg		96	79 ₋ 117	
n-Butylbenzene	0.800	0.787		mg/Kg		98	78 - 128	
1,2-Dichlorobenzene	0.800	0.868		mg/Kg		109	79 - 117	
1,2-Dibromo-3-Chloropropane	0.800	0.818		mg/Kg		102	53 - 132	
1,2,4-Trichlorobenzene	0.800	0.804		mg/Kg		101	61 - 130	
Hexachlorobutadiene	0.800	0.741		mg/Kg		93	68 - 134	
Naphthalene	0.800	0.893		mg/Kg		112	14 - 170	
1,2,3-Trichlorobenzene	0.800	0.842		mg/Kg		105	61 - 130	
1,3,5-Trimethylbenzene	0.800	0.806		mg/Kg		103	80 - 125	

QC Sample Results

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-186594/2-A

Matrix: Solid

Analysis Batch: 186928

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 186594

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)	97		80 - 120
1,2-Dichloroethane-d4 (Surr)	105		71 - 136
4-Bromofluorobenzene (Surr)	97		70 - 120
Dibromofluoromethane (Surr)	103		75 - 132

Client Sample ID: HDW-3B -18

Prep Type: Total/NA Prep Batch: 186594

Lab Sample ID: 580-48652-4 MS **Matrix: Solid**

Analysis Batch: 186928

Analysis Batch: 186928									Prep Bat	tch: 18 <mark>659</mark> 4
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Dichlorodifluoromethane	ND		0.877	0.852		mg/Kg	₩	97	35 - 135	
Chloromethane	ND		0.876	0.875		mg/Kg	₩	100	50 - 130	
Vinyl chloride	ND		0.877	0.627		mg/Kg	₩	72	60 - 125	
Bromomethane	ND		0.877	0.766		mg/Kg	₩	87	30 - 160	
Chloroethane	ND		0.877	0.849		mg/Kg	₩	97	40 - 155	
Trichlorofluoromethane	ND		0.877	0.846		mg/Kg	₩	97	25 - 185	
1,1-Dichloroethene	ND		0.877	0.812		mg/Kg	₩	93	65 - 135	
Carbon disulfide	ND		0.877	0.845		mg/Kg	₩	96	45 - 160	
Acetone	ND		3.51	3.85		mg/Kg	₩	110	20 - 160	
Methylene Chloride	ND		0.877	0.925		mg/Kg	₩	105	55 - 140	
Methyl tert-butyl ether	ND		0.877	0.940		mg/Kg	₩	107	59 - 137	
trans-1,2-Dichloroethene	ND		0.877	0.853		mg/Kg	₩	97	65 - 135	
1,1-Dichloroethane	ND		0.877	0.959		mg/Kg	₩	109	75 - 125	
2,2-Dichloropropane	ND		0.877	0.809		mg/Kg	₩	92	65 - 135	
cis-1,2-Dichloroethene	ND		0.877	0.929		mg/Kg	₩	106	65 - 125	
2-Butanone (MEK)	ND		3.51	4.20		mg/Kg	₩	120	30 - 160	
Bromochloromethane	ND		0.877	0.995		mg/Kg	₩	114	70 - 125	
Chloroform	ND		0.877	0.948		mg/Kg	₩	108	70 - 125	
1,1,1-Trichloroethane	ND		0.877	0.893		mg/Kg	₩	102	70 - 135	
Carbon tetrachloride	ND		0.877	0.921		mg/Kg	₩	105	65 - 135	
1,1-Dichloropropene	ND		0.877	0.870		mg/Kg	₩	99	70 - 135	
Benzene	ND		0.877	0.868		mg/Kg	₩.	99	75 - 125	
1,2-Dichloroethane	ND		0.877	0.919		mg/Kg	₩	105	70 - 135	
Trichloroethene	ND		0.877	0.936		mg/Kg	₩	107	75 - 125	
1,2-Dichloropropane	ND		0.877	0.969		mg/Kg	₩	111	70 - 120	
Dibromomethane	ND		0.877	0.937		mg/Kg	₩	107	75 - 130	
Bromodichloromethane	ND		0.877	1.02		mg/Kg	₩	117	70 - 130	
cis-1,3-Dichloropropene	ND		0.877	0.996		mg/Kg	₩	114	70 - 125	
4-Methyl-2-pentanone (MIBK)	ND		3.51	4.11		mg/Kg	₩	117	45 - 145	
Toluene	0.0028	J	0.877	0.913		mg/Kg	₩	104	70 - 125	
trans-1,3-Dichloropropene	ND		0.877	1.01		mg/Kg	₩.	115	65 - 125	
1,1,2-Trichloroethane	ND		0.877	0.962		mg/Kg	₩	110	60 - 125	
Tetrachloroethene	ND		0.877	0.892		mg/Kg	₩	102	65 - 140	
1,3-Dichloropropane	ND		0.877	0.991		mg/Kg	₩.	113	75 - 125	
2-Hexanone	ND		3.51	4.05		mg/Kg	₽	116	45 - 145	
Dibromochloromethane	ND		0.877	1.02		mg/Kg	₽	117	65 - 130	
1,2-Dibromoethane	ND		0.877	0.948		mg/Kg		108	70 - 125	
Chlorobenzene	ND		0.877	0.901		mg/Kg	₩	103	75 ₋ 125	

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-48652-4 MS

Matrix: Solid

Analysis Batch: 186928

Client Sample ID: HDW-3B -18 Prep Type: Total/NA **Prep Batch: 186594**

Analysis Batch: 186928	Sample	Sample	Spike	MS	MS				%Rec. 18659
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
1,1,1,2-Tetrachloroethane	ND		0.877	0.976	-	mg/Kg	☼	111	75 - 125
Ethylbenzene	ND		0.877	0.916		mg/Kg	₩.	105	75 ₋ 125
m,p-Xylene	0.0042	J	0.877	0.874		mg/Kg	₩	99	80 - 125
o-Xylene	ND		0.877	0.928		mg/Kg	₩	106	75 - 125
Styrene	ND		0.877	1.03		mg/Kg	₩.	118	75 ₋ 125
Bromoform	ND		0.877	0.946		mg/Kg	₩	108	55 - 135
Isopropylbenzene	ND		0.877	0.875		mg/Kg	₩	100	75 - 130
Bromobenzene	ND		0.877	0.962		mg/Kg	₩	110	65 - 120
1,1,2,2-Tetrachloroethane	ND		0.877	0.929		mg/Kg	₩	106	55 - 130
1,2,3-Trichloropropane	ND		0.877	0.916		mg/Kg	₩	104	65 _ 130
N-Propylbenzene	ND		0.877	0.947		mg/Kg	₽	108	65 - 135
2-Chlorotoluene	ND		0.877	0.956		mg/Kg	₩	109	70 - 130
4-Chlorotoluene	ND		0.877	0.910		mg/Kg	₩	104	75 - 125
tert-Butylbenzene	ND		0.877	0.958		mg/Kg	₩	109	65 - 130
1,2,4-Trimethylbenzene	0.0098	J	0.877	0.935		mg/Kg	₩	106	65 - 135
sec-Butylbenzene	ND		0.877	0.918		mg/Kg	₩	105	65 - 130
p-Isopropyltoluene	ND		0.877	0.855		mg/Kg	₩.	98	75 - 135
1,3-Dichlorobenzene	ND		0.877	0.932		mg/Kg	₩	106	70 - 125
1,4-Dichlorobenzene	ND		0.877	0.888		mg/Kg	₩	101	70 - 125
n-Butylbenzene	ND		0.877	0.879		mg/Kg	*	100	65 - 140
1,2-Dichlorobenzene	ND	F1	0.877	1.01		mg/Kg	₩	115	75 - 120
1,2-Dibromo-3-Chloropropane	ND		0.877	1.00		mg/Kg	₩	114	40 - 135
1,2,4-Trichlorobenzene	ND		0.877	0.912		mg/Kg	₩	104	65 - 130
Hexachlorobutadiene	ND		0.877	0.808		mg/Kg	₩	92	55 - 140
Naphthalene	0.0067	J	0.877	0.983		mg/Kg	₩	111	40 - 125

0.877

0.877

0.877

0.932

mg/Kg

mg/Kg

100

106

60 - 135

65 - 135

MS MS

ND

0.0039 J

Surrogate	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)	99		80 - 120
1,2-Dichloroethane-d4 (Surr)	98		71 - 136
4-Bromofluorobenzene (Surr)	93		70 - 120
Dibromofluoromethane (Surr)	104		75 - 132

Lab Sample ID: 580-48652-4 MSD

Matrix: Solid

1,2,3-Trichlorobenzene

1,3,5-Trimethylbenzene

Analysis Batch: 186928

Client Sample ID: HDW-3B -18 Prep Type: Total/NA

Prep Batch: 186594

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Dichlorodifluoromethane	ND		0.877	0.911		mg/Kg	₩	104	35 - 135	7	30
Chloromethane	ND		0.876	0.903		mg/Kg	☼	103	50 - 130	3	30
Vinyl chloride	ND		0.877	0.659		mg/Kg	☼	75	60 - 125	5	30
Bromomethane	ND		0.877	0.857		mg/Kg	₩	98	30 - 160	11	30
Chloroethane	ND		0.877	0.946		mg/Kg	☼	108	40 - 155	11	30
Trichlorofluoromethane	ND		0.877	0.911		mg/Kg	☼	104	25 - 185	7	30
1,1-Dichloroethene	ND		0.877	0.837		mg/Kg	₩	96	65 - 135	3	30
Carbon disulfide	ND		0.877	0.895		mg/Kg	≎	102	45 - 160	6	30
Acetone	ND		3.51	3.91		mg/Kg	☼	111	20 - 160	1	30

TestAmerica Seattle

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QC Sample Results

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1

SDG: Crown Cork & Seal

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-48652-4 MSD

Matrix: Solid

Analysis Batch: 186928

Client Sample ID: HDW-3B -18 **Prep Type: Total/NA**

Prep Batch: 186594

Analysis Batch: 186928	Sample Samp	ole Spike	MSD	MSD				Prep I %Rec.	Batch: 1	86594 RPI
Analyte	Result Quali	•	Result		Unit	D	%Rec	Limits	RPD	Limi
Methylene Chloride	ND Quan	0.877	0.958		mg/Kg	— =	109	55 ₋ 140	4	3
Methyl tert-butyl ether	ND	0.877	0.973		mg/Kg		111	59 - 137	3	3
trans-1,2-Dichloroethene	ND	0.877	0.934		mg/Kg	₩	107	65 - 135	9	30
1,1-Dichloroethane	ND	0.877	0.998		mg/Kg		114	75 - 125	4	3
2,2-Dichloropropane	ND	0.877	0.889		mg/Kg	₽	101	65 - 135	10	3(
cis-1,2-Dichloroethene	ND	0.877	0.982		mg/Kg	₽	112	65 - 125	6	3(
2-Butanone (MEK)	ND	3.51	4.20		mg/Kg		120	30 - 160		30
Bromochloromethane	ND	0.877	1.03		mg/Kg	₽	117	70 - 125	3	3(
Chloroform	ND	0.877	1.03		mg/Kg	₽	117	70 - 125	8	30
1,1,1-Trichloroethane	ND	0.877	0.929		mg/Kg		106	70 - 135	4	3(
Carbon tetrachloride	ND	0.877	0.968		mg/Kg	≎	110	65 - 135	5	30
1,1-Dichloropropene	ND	0.877	0.926		mg/Kg	₩	106	70 - 135	6	30
Benzene	ND	0.877	0.907		mg/Kg		103	75 ₋ 125	4	3(
1,2-Dichloroethane	ND	0.877	0.935		mg/Kg	₩	107	70 ₋ 135	2	30
Trichloroethene	ND	0.877	0.962		mg/Kg	₽	110	75 - 125	3	3(
1,2-Dichloropropane	ND	0.877	0.990		mg/Kg		113	70 - 120	2	3(
Dibromomethane	ND	0.877	0.951		mg/Kg	☼	109	75 - 130	1	30
Bromodichloromethane	ND	0.877	1.02		mg/Kg	₩	116	70 - 130	1	30
cis-1,3-Dichloropropene	ND	0.877	1.05		mg/Kg		119	70 - 125	5	3(
4-Methyl-2-pentanone (MIBK)	ND	3.51	4.11		mg/Kg	☼	117	45 - 145	0	30
Toluene	0.0028 J	0.877	0.948		mg/Kg	₩	108	70 - 125	4	30
trans-1,3-Dichloropropene	ND	0.877	1.04		mg/Kg		119	65 - 125	3	3(
1,1,2-Trichloroethane	ND	0.877	0.996		mg/Kg	₩	114	60 - 125	3	30
Tetrachloroethene	ND	0.877	0.941		mg/Kg	₽	107	65 ₋ 140	5	30
1,3-Dichloropropane	ND	0.877	1.01		mg/Kg		115	75 ₋ 125	2	30
2-Hexanone	ND	3.51	4.07		mg/Kg	₽	116	45 - 145	0	30
Dibromochloromethane	ND	0.877	1.04		mg/Kg	₽	119	65 - 130	2	30
1,2-Dibromoethane	ND	0.877	0.978		mg/Kg		112	70 - 125	3	30
Chlorobenzene	ND	0.877	0.948		mg/Kg	≎	108	75 ₋ 125	5	30
1,1,1,2-Tetrachloroethane	ND	0.877	1.01		mg/Kg	☼	115	75 ₋ 125	4	30
Ethylbenzene	ND	0.877	0.958		mg/Kg		109	75 - 125	4	30
m,p-Xylene	0.0042 J	0.877	0.915		mg/Kg	☼	104	80 - 125	5	30
o-Xylene	ND	0.877	0.970		mg/Kg	₽	111	75 ₋ 125	4	30
Styrene	ND	0.877	1.07		mg/Kg		122	75 - 125	3	30
Bromoform	ND	0.877	0.976		mg/Kg	☼	111	55 ₋ 135	3	30
Isopropylbenzene	ND	0.877	0.916		mg/Kg	≎	104	75 - 130	4	30
Bromobenzene	ND	0.877	1.00		mg/Kg	· · · · · · · · · · · · · · · · · · ·	114	65 - 120	4	30
1,1,2,2-Tetrachloroethane	ND	0.877	0.976		mg/Kg	₽	111	55 ₋ 130	5	30
1,2,3-Trichloropropane	ND	0.877	0.928		mg/Kg	≎	106	65 - 130	1	30
N-Propylbenzene	ND	0.877	0.985		mg/Kg		112	65 - 135	4	30
2-Chlorotoluene	ND	0.877	0.985		mg/Kg	≎	112	70 - 130	3	30
4-Chlorotoluene	ND	0.877	0.944		mg/Kg	₽	108	75 ₋ 125	4	30
tert-Butylbenzene	ND	0.877	1.00		mg/Kg		114	65 - 130	5	30
1,2,4-Trimethylbenzene	0.0098 J	0.877	0.978		mg/Kg	₽	110	65 - 135	5	30
sec-Butylbenzene	ND	0.877	0.950		mg/Kg	₽	108	65 - 130	3	30
p-Isopropyltoluene	ND	0.877	0.891		mg/Kg		102	75 - 135	4	30
1,3-Dichlorobenzene	ND	0.877	0.966		mg/Kg	₽	110	70 - 125	3	30
1,4-Dichlorobenzene	ND	0.877	0.922		mg/Kg	₽	105	70 - 125 70 - 125	4	3(

TestAmerica Seattle

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TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-48652-4 MSD

Matrix: Solid

Analysis Batch: 186928

Client: URS Corporation

Project/Site: Mecox

Client Sample ID: HDW-3B -18 Prep Type: Total/NA

Prep Batch: 186594

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
n-Butylbenzene	ND		0.877	0.907		mg/Kg	<u></u>	103	65 - 140	3	30
1,2-Dichlorobenzene	ND	F1	0.877	1.06	F1	mg/Kg	₩	121	75 - 120	5	30
1,2-Dibromo-3-Chloropropane	ND		0.877	1.04		mg/Kg	₽	118	40 - 135	3	30
1,2,4-Trichlorobenzene	ND		0.877	0.941		mg/Kg	₩	107	65 - 130	3	30
Hexachlorobutadiene	ND		0.877	0.824		mg/Kg	₽	94	55 - 140	2	30
Naphthalene	0.0067	J	0.877	1.05		mg/Kg	₩	119	40 - 125	6	30
1,2,3-Trichlorobenzene	ND		0.877	0.932		mg/Kg	₽	106	60 - 135	6	30
1,3,5-Trimethylbenzene	0.0039	J	0.877	0.976		mg/Kg	₩	111	65 - 135	5	30

MSD MSD

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Surrogate	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)	99		80 - 120
1,2-Dichloroethane-d4 (Surr)	97		71 - 136
4-Bromofluorobenzene (Surr)	93		70 - 120
Dibromofluoromethane (Surr)	102		75 - 132

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-186440/1-B

Matrix: Solid

Terphenyl-d14

Analysis Batch: 186538

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 186440

Analysis Batch: 186538								Prep Batch:	186440
• • •		MB	ъ.			_			B.: E
Analyte	Result	Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.010	0.0020	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
2-Methylnaphthalene	ND		0.0050	0.0012	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
1-Methylnaphthalene	ND		0.010	0.0015	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
Acenaphthylene	ND		0.0050	0.00049	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
Acenaphthene	ND		0.0050	0.00077	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
Fluorene	ND		0.0050	0.00063	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
Phenanthrene	ND		0.010	0.0015	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
Anthracene	ND		0.0050	0.00074	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
Fluoranthene	ND		0.0050	0.00087	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
Pyrene	ND		0.010	0.0015	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
Benzo[a]anthracene	ND		0.010	0.0015	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
Chrysene	ND		0.0050	0.00089	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
Benzo[b]fluoranthene	ND		0.010	0.0015	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
Benzo[k]fluoranthene	ND		0.010	0.0015	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
Benzo[a]pyrene	ND		0.0050	0.00093	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
Indeno[1,2,3-cd]pyrene	ND		0.0050	0.00092	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
Dibenz(a,h)anthracene	ND		0.0050	0.00090	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
Benzo[g,h,i]perylene	ND		0.010	0.0015	mg/Kg		04/09/15 13:31	04/10/15 13:38	1
	МВ	МВ							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac

TestAmerica Seattle

04/09/15 13:31 04/10/15 13:38

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TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 186440

Analysis Batch: 186538							Prep Batch: 18644
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Naphthalene	1.00	0.840		mg/Kg		84	62 - 112
2-Methylnaphthalene	1.00	0.841		mg/Kg		84	64 - 119
1-Methylnaphthalene	1.00	0.896		mg/Kg		90	62 - 118
Acenaphthylene	1.00	0.802		mg/Kg		80	68 - 120
Acenaphthene	1.00	0.862		mg/Kg		86	68 - 116
Fluorene	1.00	0.777		mg/Kg		78	70 - 121
Phenanthrene	1.00	0.824		mg/Kg		82	73 - 106
Anthracene	1.00	0.907		mg/Kg		91	73 - 116
Fluoranthene	1.00	0.834		mg/Kg		83	73 - 125
Pyrene	1.00	0.842		mg/Kg		84	70 - 120
Benzo[a]anthracene	1.00	0.841		mg/Kg		84	76 - 119
Chrysene	1.00	0.807		mg/Kg		81	75 - 114
Benzo[b]fluoranthene	1.00	0.814		mg/Kg		81	63 - 132
Benzo[k]fluoranthene	1.00	0.674		mg/Kg		67	63 - 119
Benzo[a]pyrene	1.00	0.780		mg/Kg		78	72 - 117
Indeno[1,2,3-cd]pyrene	1.00	0.796		mg/Kg		80	56 - 127
Dibenz(a,h)anthracene	1.00	0.789		mg/Kg		79	56 - 134
Benzo[g,h,i]perylene	1.00	0.756		mg/Kg		76	55 ₋ 139

LCS LCS

Surrogate %Recovery Qualifier Limits Terphenyl-d14 78 42 - 151

Lab Sample ID: LCSD 580-186440/3-B

Matrix: Solid

Analysis Batch: 186538

Client: URS Corporation

Lab Sample ID: LCS 580-186440/2-B

Project/Site: Mecox

Matrix: Solid

lient Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 186440

•									RPD
	Spike	LCSD	LCSD				%Rec.		
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Naphthalene	1.00	0.856		mg/Kg		86	62 - 112	2	26
2-Methylnaphthalene	1.00	0.857		mg/Kg		86	64 - 119	2	27
1-Methylnaphthalene	1.00	0.907		mg/Kg		91	62 - 118	1	30
Acenaphthylene	1.00	0.836		mg/Kg		84	68 - 120	4	28
Acenaphthene	1.00	0.902		mg/Kg		90	68 - 116	4	27
Fluorene	1.00	0.978		mg/Kg		98	70 - 121	23	30
Phenanthrene	1.00	0.861		mg/Kg		86	73 - 106	4	28
Anthracene	1.00	0.957		mg/Kg		96	73 - 116	5	27
Fluoranthene	1.00	0.859		mg/Kg		86	73 - 125	3	30
Pyrene	1.00	0.870		mg/Kg		87	70 - 120	3	30
Benzo[a]anthracene	1.00	0.873		mg/Kg		87	76 - 119	4	27
Chrysene	1.00	0.862		mg/Kg		86	75 - 114	7	26
Benzo[b]fluoranthene	1.00	0.859		mg/Kg		86	63 - 132	5	30
Benzo[k]fluoranthene	1.00	0.727		mg/Kg		73	63 - 119	8	30
Benzo[a]pyrene	1.00	0.825		mg/Kg		82	72 - 117	6	30
Indeno[1,2,3-cd]pyrene	1.00	0.835		mg/Kg		83	56 - 127	5	29
Dibenz(a,h)anthracene	1.00	0.838		mg/Kg		84	56 - 134	6	30
Benzo[g,h,i]perylene	1.00	0.802		mg/Kg		80	55 - 139	6	28

TestAmerica Seattle

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Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 580-186440/3-B

Matrix: Solid

Analysis Batch: 186538

LCSD LCSD

Surrogate %Recovery Qualifier Terphenyl-d14 80

Limits 42 - 151 Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Prep Batch: 186440

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-186440/1-B

Matrix: Solid

Analyte

Analysis Batch: 186536

Client Sample ID: Method Blank Prep Type: Total/NA **Prep Batch: 186440**

MB MB Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Bis(2-ethylhexyl) phthalate 0.294 0.60 04/09/15 13:31 04/10/15 16:04 0.050 mg/Kg Butyl benzyl phthalate ND 0.20 04/09/15 13:31 04/10/15 16:04 0.050 mg/Kg Diethyl phthalate ND 0.20 04/09/15 13:31 04/10/15 16:04 0.015 mg/Kg ND Dimethyl phthalate 0.10 0.0050 mg/Kg 04/09/15 13:31 04/10/15 16:04 Di-n-butyl phthalate ND 0.50 0.050 mg/Kg 04/09/15 13:31 04/10/15 16:04 Di-n-octyl phthalate NΠ 0.50 0.0050 mg/Kg 04/09/15 13:31 04/10/15 16:04

мв мв

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	73		28 - 143	04/09/15 13:31	04/10/15 16:04	1
2-Fluorobiphenyl	74		42 - 140	04/09/15 13:31	04/10/15 16:04	1
2-Fluorophenol (Surr)	83		36 - 145	04/09/15 13:31	04/10/15 16:04	1
Nitrobenzene-d5 (Surr)	87		38 - 141	04/09/15 13:31	04/10/15 16:04	1
Phenol-d5 (Surr)	86		38 - 149	04/09/15 13:31	04/10/15 16:04	1
Terphenyl-d14 (Surr)	80		42 - 151	04/09/15 13:31	04/10/15 16:04	1

Lab Sample ID: LCS 580-186440/2-B

Matrix: Solid

Analysis Batch: 186536

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186440

	Spike	LCS	LCS				%Rec.		
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Bis(2-ethylhexyl) phthalate	1.00	1.42		mg/Kg		142	62 - 144	 	
Butyl benzyl phthalate	1.00	1.01		mg/Kg		101	69 - 142		
Diethyl phthalate	1.00	0.842		mg/Kg		84	73 - 116		
Dimethyl phthalate	1.00	0.861		mg/Kg		86	78 - 117		
Di-n-butyl phthalate	1.00	0.953		mg/Kg		95	66 - 140		
Di-n-octyl phthalate	1.00	1.09		mg/Kg		109	65 - 141		

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol (Surr)	94		28 - 143
2-Fluorobiphenyl	79		42 - 140
2-Fluorophenol (Surr)	87		36 - 145
Nitrobenzene-d5 (Surr)	91		38 - 141
Phenol-d5 (Surr)	90		38 - 149
Terphenyl-d14 (Surr)	87		42 - 151

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Client: URS Corporation Project/Site: Mecox

Di-n-octyl phthalate

TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-186440/3-B Matrix: Solid Analysis Batch: 186536				Clier	nt Sam	nple ID:	: Lab Control Sa Prep Type: Prep Batc		al/NA
	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Bis(2-ethylhexyl) phthalate	1.00	1.33		mg/Kg		133	62 - 144	6	30
Butyl benzyl phthalate	1.00	0.986		mg/Kg		99	69 - 142	2	30
Diethyl phthalate	1.00	0.875		mg/Kg		87	73 - 116	4	26
Dimethyl phthalate	1.00	0.883		mg/Kg		88	78 - 117	2	30
Di-n-butyl phthalate	1.00	0.950		mg/Kg		95	66 - 140	0	30

1.06

mg/Kg

106

65 - 141

2

1.00

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol (Surr)	95		28 - 143
2-Fluorobiphenyl	82		42 - 140
2-Fluorophenol (Surr)	86		36 - 145
Nitrobenzene-d5 (Surr)	91		38 - 141
Phenol-d5 (Surr)	92		38 - 149
Terphenyl-d14 (Surr)	88		42 - 151

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-186438/1-A

Matrix: Solid

Analysis Batch: 186483

MB MB

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 186438

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	0.813	J	4.0	0.50	mg/Kg		04/09/15 13:24	04/09/15 13:58	1

	IVID	IVID				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		50 - 150	04/09/15 13:24	04/09/15 13:58	1

Lab Sample ID: LCS 580-186438/2-A

Matrix: Solid

Analysis Batch: 186483

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186438

 Analyte
 Added Gasoline
 Result 40.0
 Qualifier 40.0
 Unit mg/Kg
 D mg/Kg
 Rec Limits 100 68 - 120

	LCS	LCS		
Surrogate	%Recovery	Qualifier	Limits	
4-Bromofluorobenzene (Surr)	101		50 - 150	

Lab Sample ID: LCSD 580-186438/3-A

Client Sample ID: Lab Control Sample Dup
Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 186483 **Prep Batch: 186438** Spike LCSD LCSD %Rec. RPD Added Analyte Result Qualifier %Rec Limits RPD Limit Unit Gasoline 40.0 104 68 - 120 3 41.8 mg/Kg

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		50 - 150

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: MB 580-186478/1-A

Matrix: Solid

Analysis Batch: 186483

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 186478

мв мв

Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac 4.0 04/09/15 16:48 04/09/15 19:39 Gasoline ND 0.50 mg/Kg

MB MB

Qualifier Limits Dil Fac Surrogate %Recovery Prepared Analyzed 50 - 150 04/09/15 16:48 04/09/15 19:39 4-Bromofluorobenzene (Surr) 97

Lab Sample ID: 580-48652-4 MS

Matrix: Solid

Analysis Batch: 186483

Client Sample ID: HDW-3B -18

Prep Type: Total/NA

Prep Batch: 186478

Sample Sample Spike MS MS Result Qualifier Added Analyte Result Qualifier D Limits Unit %Rec mg/Kg 105 Gasoline 2.2 J 50.8 55.6 50 - 150

MS MS

Surrogate %Recovery Qualifier Limits 50 - 150 4-Bromofluorobenzene (Surr) 103

Lab Sample ID: 580-48652-4 MSD Client Sample ID: HDW-3B -18 Prep Type: Total/NA

Matrix: Solid

Analysis Batch: 186483

Prep Batch: 186478 Sample Sample Spike MSD MSD %Rec. RPD Result Qualifier Added Qualifier D Analyte Result Unit %Rec Limits **RPD** Limit $\overline{\Box}$ Gasoline 2.2 J 50.8 55.6 105 50 - 150 0 mg/Kg

MSD MSD

Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 101 50 - 150

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-186369/1-A

Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA Analysis Batch: 186462 **Prep Batch: 186369** мв мв

	III D	1410							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.010	0.0032	mg/Kg		04/08/15 13:57	04/09/15 18:23	1
PCB-1221	ND		0.011	0.0080	mg/Kg		04/08/15 13:57	04/09/15 18:23	1
PCB-1232	ND		0.011	0.0070	mg/Kg		04/08/15 13:57	04/09/15 18:23	1
PCB-1242	ND		0.010	0.0021	mg/Kg		04/08/15 13:57	04/09/15 18:23	1
PCB-1248	ND		0.010	0.0030	mg/Kg		04/08/15 13:57	04/09/15 18:23	1
PCB-1254	ND		0.010	0.0021	mg/Kg		04/08/15 13:57	04/09/15 18:23	1
PCB-1260	ND		0.010	0.0030	mg/Kg		04/08/15 13:57	04/09/15 18:23	1

	MB MB				
Surrogate	%Recovery Qualifi	ier Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	87	45 - 135	04/08/15 13:57	04/09/15 18:23	1
DCB Decachlorobiphenyl	89	50 ₋ 140	04/08/15 13:57	04/09/15 18:23	1

Client: URS Corporation Project/Site: Mecox

Analysis Batch: 186829

TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 580-186369/2-A

Matrix: Solid

Analysis Batch: 186462

Spike

LCS LCS

Analyte

Added

Result Qualifier Unit D %Rec Limits

		Opike	LUU	LUU				/ortec.	
Analyte		Added	Result	Qualifier	Unit	D	%Rec	Limits	
PCB-1016		0.100	0.0843		mg/Kg		84	40 - 140	
PCB-1260		0.100	0.0846		mg/Kg		85	60 - 130	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	85		45 - 135
DCB Decachlorobiphenyl	90		50 - 140

Lab Sample ID: LCSD 580-186369/3-A

Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Prep Type: Total/NA

Matrix: Solid

Analysis Batch: 186462

Prep Batch: 186369

Prep Batch: 186369

	. RPD
D %Rec Limit	s RPD Limit
ig 90 40 - 1	40 7 20
íg 87 60 - 1	30 3 20
	/Kg 90 40 - 1

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	89		45 - 135
DCB Decachlorobiphenyl	91		50 - 140

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-186786/1-A

Matrix: Solid

Analysis Batch: 186829

Client Sample ID: Method Blank
Prep Type: Total/NA

Prep Batch: 186786

 MB

 Analyte
 Result
 Qualifier
 RL
 MDL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 #2 Diesel (C10-C24)
 ND
 25
 3.6
 mg/kg
 04/14/15 13:21
 04/15/15 15:54
 1

#2 Diesel (C10-C24)

Motor Oil (>C24-C36)

ND

50

9.1 mg/Kg

04/14/15 13:21

04/15/15 15:54

1

MB MB

Surrogate

%Recovery Qualifier Limits

Prepared Analyzed Dil Fac

o-Terphenyl 77 50 - 150 04/14/15 13:21 04/15/15 15:54 1

Lab Sample ID: LCS 580-186786/2-A

Client Sample ID: Lab Control Sample

Matrix: Solid

Prep Type: Total/NA

Motor Oil (>C24-C36)			502	505	mg/Kg	101	64 - 127	
	LCS	LCS						
Surrogate	%Recovery	Qualifier	Limits					
o-Terphenyl	84		50 - 150					

TestAmerica Seattle

Prep Batch: 186786

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-186786/3-A **Matrix: Solid**

Analysis Batch: 186829

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Prep Batch: 186786

Spike LCSD LCSD Added Limits RPD Limit Analyte Result Qualifier Unit %Rec 500 0 16 #2 Diesel (C10-C24) 450 mg/Kg 90 70 - 125 Motor Oil (>C24-C36) 502 17 500 mg/Kg 100 64 - 127

LCSD LCSD

Surrogate %Recovery Qualifier I imits 50 - 150 o-Terphenyl 85

Client Sample ID: HDW-3A -9

Prep Type: Total/NA

Prep Batch: 186786

Analysis Batch: 186829 DU DU RPD Sample Sample Result Qualifier Result Qualifier RPD Limit Analyte Unit D # #2 Diesel (C10-C24) 84 Y 63.4 28 35 mg/Kg # 150 Y Motor Oil (>C24-C36) 110 mg/Kg 29 35

DU DU

Surrogate %Recovery Qualifier Limits 85 50 - 150 o-Terphenyl

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: 580-48652-1 DU

Lab Sample ID: MB 580-186381/17-A

Matrix: Solid

Matrix: Solid

Analysis Batch: 186402

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 186381

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.18	mg/Kg		04/08/15 15:34	04/09/15 00:53	10
Barium	ND		0.50	0.078	mg/Kg		04/08/15 15:34	04/09/15 00:53	10
Cadmium	ND		0.20	0.019	mg/Kg		04/08/15 15:34	04/09/15 00:53	10
Chromium	ND		0.50	0.063	mg/Kg		04/08/15 15:34	04/09/15 00:53	10
Copper	ND		0.40	0.098	mg/Kg		04/08/15 15:34	04/09/15 00:53	10
Lead	ND		0.50	0.048	mg/Kg		04/08/15 15:34	04/09/15 00:53	10
Nickel	ND		0.50	0.081	mg/Kg		04/08/15 15:34	04/09/15 00:53	10
Selenium	ND		1.0	0.20	mg/Kg		04/08/15 15:34	04/09/15 00:53	10
Silver	ND		0.20	0.012	mg/Kg		04/08/15 15:34	04/09/15 00:53	10

Lab Sample ID: LCS 580-186381/18-A

Matrix: Solid

Analysis Batch: 186402

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 186381

-	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Arsenic	200	195		mg/Kg		97	80 - 120	
Barium	200	183		mg/Kg		91	80 - 120	
Cadmium	5.00	4.91		mg/Kg		98	80 - 120	
Chromium	20.0	17.9		mg/Kg		89	80 - 120	
Соррег	25.0	24.5		mg/Kg		98	80 - 120	
Lead	50.0	53.9		mg/Kg		108	80 - 120	
Nickel	50.0	46.7		mg/Kg		93	80 - 120	
Selenium	200	196		mg/Kg		98	80 - 120	

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-186381/18-A Client Sample ID: Lab Control Sample **Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 186402 Prep Batch: 186381** LCS LCS Spike

Added Result Qualifier Analyte Unit D %Rec Limits Silver 30.0 32.8 109 80 - 120 mg/Kg

Lab Sample ID: LCSD 580-186381/19-A

Matrix: Solid

Analysis Batch: 186402

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Prep Batch: 186381

Spike LCSD LCSD RPD %Rec. Added RPD Limit Result Qualifier %Rec Limits Analyte Unit D Arsenic 200 195 mg/Kg 98 80 - 120 0 20 Barium 200 187 mg/Kg 93 80 - 120 2 20 80 - 120 Cadmium 5.00 5.14 mg/Kg 103 20 Chromium 20.0 18.3 mg/Kg 91 80 - 120 20 Copper 25.0 24.9 mg/Kg 99 80 - 120 20 Lead 50.0 54.1 mg/Kg 108 80 - 120 20 Nickel 50.0 94 20 47.2 mg/Kg 80 - 120 98 Selenium 200 197 mg/Kg 80 - 120 20 Silver 30.0 33 4 mg/Kg 111 80 - 120 2 20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-186684/21-A

Matrix: Solid

Analysis Batch: 186750

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 186684

Prep Type: Total/NA

Prep Batch: 186684

MB MB Result Qualifier RL MDL Unit D Analyte

Mercury ND

Dil Fac Prepared Analyzed 0.020 04/13/15 11:27 04/13/15 14:56 0.0060 mg/Kg

Lab Sample ID: LCS 580-186684/22-A

Matrix: Solid

Analysis Batch: 186750

Spike LCS LCS Added

D %Rec

%Rec. Limits

Client Sample ID: Lab Control Sample

Result Qualifier Analyte Unit 0.167 0.150 90 80 - 120 Mercury mg/Kg

Lab Sample ID: LCSD 580-186684/23-A

Matrix: Solid

Analysis Batch: 186750

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA **Prep Batch: 186684**

LCSD LCSD RPD Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits **RPD** Limit 0.167 Mercury 0.153 mg/Kg 92 80 - 120 20

Method: D 2216 - Percent Moisture

Lab Sample ID: 580-48652-1 DU

Matrix: Solid

Analyte

Percent Solids

Percent Moisture

Analysis Batch: 186529

Client Sample ID: HDW-3A -9 Prep Type: Total/NA

Sample Sample DU DU RPD Result Qualifier Result Qualifier Unit D RPD Limit % 75 75 0.5 20 25 25 % 20

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

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GC/MS VOA

Prep Batch: 186594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1	HDW-3A -9	Total/NA	Solid	5030B	
580-48652-1 - DL	HDW-3A -9	Total/NA	Solid	5030B	
580-48652-1 - DL2	HDW-3A -9	Total/NA	Solid	5030B	
580-48652-2	HDW-3A -16	Total/NA	Solid	5030B	
580-48652-3	HDW-3B -12	Total/NA	Solid	5030B	
580-48652-4	HDW-3B -18	Total/NA	Solid	5030B	
580-48652-4 MS	HDW-3B -18	Total/NA	Solid	5030B	
580-48652-4 MSD	HDW-3B -18	Total/NA	Solid	5030B	
LCS 580-186594/2-A	Lab Control Sample	Total/NA	Solid	5030B	
MB 580-186594/1-A	Method Blank	Total/NA	Solid	5030B	

Analysis Batch: 186928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1 - DL	HDW-3A -9	Total/NA	Solid	8260C	186594
580-48652-1	HDW-3A -9	Total/NA	Solid	8260C	186594
580-48652-4	HDW-3B -18	Total/NA	Solid	8260C	186594
580-48652-4 MS	HDW-3B -18	Total/NA	Solid	8260C	186594
580-48652-4 MSD	HDW-3B -18	Total/NA	Solid	8260C	186594
LCS 580-186594/2-A	Lab Control Sample	Total/NA	Solid	8260C	186594
MB 580-186594/1-A	Method Blank	Total/NA	Solid	8260C	186594

Analysis Batch: 187110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1 - DL	HDW-3A -9	Total/NA	Solid	8260C	186594
580-48652-1 - DL2	HDW-3A -9	Total/NA	Solid	8260C	186594
580-48652-2	HDW-3A -16	Total/NA	Solid	8260C	186594
580-48652-3	HDW-3B -12	Total/NA	Solid	8260C	186594

GC/MS Semi VOA

Prep Batch: 186440

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1	HDW-3A -9	Total/NA	Solid	3550B	
580-48652-1	HDW-3A -9	Total/NA	Solid	3550B	
LCS 580-186440/2-B	Lab Control Sample	Total/NA	Solid	3550B	
LCSD 580-186440/3-B	Lab Control Sample Dup	Total/NA	Solid	3550B	
MB 580-186440/1-B	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 186536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 580-186440/2-B	Lab Control Sample	Total/NA	Solid	8270D	186440
LCSD 580-186440/3-B	Lab Control Sample Dup	Total/NA	Solid	8270D	186440
MB 580-186440/1-B	Method Blank	Total/NA	Solid	8270D	186440

Analysis Batch: 186538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1	HDW-3A -9	Total/NA	Solid	8270C SIM	186440
LCS 580-186440/2-B	Lab Control Sample	Total/NA	Solid	8270C SIM	186440
LCSD 580-186440/3-B	Lab Control Sample Dup	Total/NA	Solid	8270C SIM	186440
MB 580-186440/1-B	Method Blank	Total/NA	Solid	8270C SIM	186440

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

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GC/MS Semi VOA (Continued)

Analysis Batch: 186982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1	HDW-3A -9	Total/NA	Solid	8270D	186440

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GC VOA

Prep Batch: 186438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 580-186438/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 580-186438/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	
MB 580-186438/1-A	Method Blank	Total/NA	Solid	5035	

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Prep Batch: 186478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1	HDW-3A -9	Total/NA	Solid	5030B	
580-48652-2	HDW-3A -16	Total/NA	Solid	5030B	
580-48652-3	HDW-3B -12	Total/NA	Solid	5030B	
580-48652-4	HDW-3B -18	Total/NA	Solid	5030B	
580-48652-4 MS	HDW-3B -18	Total/NA	Solid	5030B	
580-48652-4 MSD	HDW-3B -18	Total/NA	Solid	5030B	
MB 580-186478/1-A	Method Blank	Total/NA	Solid	5030B	

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Analysis Batch: 186483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1	HDW-3A -9	Total/NA	Solid	NWTPH-Gx	186478
580-48652-2	HDW-3A -16	Total/NA	Solid	NWTPH-Gx	186478
580-48652-3	HDW-3B -12	Total/NA	Solid	NWTPH-Gx	186478
580-48652-4	HDW-3B -18	Total/NA	Solid	NWTPH-Gx	186478
580-48652-4 MS	HDW-3B -18	Total/NA	Solid	NWTPH-Gx	186478
580-48652-4 MSD	HDW-3B -18	Total/NA	Solid	NWTPH-Gx	186478
LCS 580-186438/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Gx	186438
LCSD 580-186438/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Gx	186438
MB 580-186438/1-A	Method Blank	Total/NA	Solid	NWTPH-Gx	186438
MB 580-186478/1-A	Method Blank	Total/NA	Solid	NWTPH-Gx	186478

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GC Semi VOA

Prep Batch: 186369

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1 LCS 580-186369/2-A	HDW-3A -9 Lab Control Sample	Total/NA Total/NA	Solid Solid	3550B 3550B	
LCSD 580-186369/3-A	Lab Control Sample Dup	Total/NA	Solid	3550B	
MB 580-186369/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 186462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1	HDW-3A -9	Total/NA	Solid	8082	186369
LCS 580-186369/2-A	Lab Control Sample	Total/NA	Solid	8082	186369
LCSD 580-186369/3-A	Lab Control Sample Dup	Total/NA	Solid	8082	186369
MB 580-186369/1-A	Method Blank	Total/NA	Solid	8082	186369

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

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GC Semi VOA (Continued)

Prep Batch: 186786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1	HDW-3A -9	Total/NA	Solid	3546	_
580-48652-1 DU	HDW-3A -9	Total/NA	Solid	3546	
580-48652-2	HDW-3A -16	Total/NA	Solid	3546	
580-48652-3	HDW-3B -12	Total/NA	Solid	3546	
580-48652-4	HDW-3B -18	Total/NA	Solid	3546	
LCS 580-186786/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 580-186786/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
MB 580-186786/1-A	Method Blank	Total/NA	Solid	3546	

Analysis Batch: 186829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1	HDW-3A -9	Total/NA	Solid	NWTPH-Dx	186786
580-48652-1 DU	HDW-3A -9	Total/NA	Solid	NWTPH-Dx	186786
580-48652-2	HDW-3A -16	Total/NA	Solid	NWTPH-Dx	186786
580-48652-3	HDW-3B -12	Total/NA	Solid	NWTPH-Dx	186786
580-48652-4	HDW-3B -18	Total/NA	Solid	NWTPH-Dx	186786
LCS 580-186786/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Dx	186786
LCSD 580-186786/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Dx	186786
MB 580-186786/1-A	Method Blank	Total/NA	Solid	NWTPH-Dx	186786

Metals

Prep Batch: 186381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1	HDW-3A -9	Total/NA	Solid	3050B	<u> </u>
LCS 580-186381/18-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-186381/19-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
MB 580-186381/17-A	Method Blank	Total/NA	Solid	3050B	

Analysis Batch: 186402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1	HDW-3A -9	Total/NA	Solid	6020	186381
LCS 580-186381/18-A	Lab Control Sample	Total/NA	Solid	6020	186381
LCSD 580-186381/19-A	Lab Control Sample Dup	Total/NA	Solid	6020	186381
MB 580-186381/17-A	Method Blank	Total/NA	Solid	6020	186381

Prep Batch: 186684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1	HDW-3A -9	Total/NA	Solid	7471A	<u> </u>
LCS 580-186684/22-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 580-186684/23-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
MB 580-186684/21-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 186750

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Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1	HDW-3A -9	Total/NA	Solid	7471A	186684
LCS 580-186684/22-A	Lab Control Sample	Total/NA	Solid	7471A	186684
LCSD 580-186684/23-A	Lab Control Sample Dup	Total/NA	Solid	7471A	186684
MB 580-186684/21-A	Method Blank	Total/NA	Solid	7471A	186684

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

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General Chemistry

Analysis Batch: 186529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-1	HDW-3A -9	Total/NA	Solid	D 2216	
580-48652-1 DU	HDW-3A -9	Total/NA	Solid	D 2216	

Analysis Batch: 187023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-48652-2	HDW-3A -16	Total/NA	Solid	D 2216	
580-48652-3	HDW-3B -12	Total/NA	Solid	D 2216	
580-48652-4	HDW-3B -18	Total/NA	Solid	D 2216	

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TestAmerica Job ID: 580-48652-1 SDG: Crown Cork & Seal

Client Sample ID: HDW-3A -9

Date Collected: 04/03/15 09:30 Date Received: 04/03/15 14:10

Client: URS Corporation

Project/Site: Mecox

Lab Sample ID: 580-48652-1

Matrix: Solid Percent Solids: 75.1

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B	DL		186594	04/10/15 17:15	IWH	TAL SEA
Total/NA	Analysis	8260C	DL	1	186928	04/15/15 22:30	CJ	TAL SEA
Total/NA	Prep	5030B			186594	04/10/15 17:15	IWH	TAL SEA
Total/NA	Analysis	8260C		1	186928	04/15/15 23:02	CJ	TAL SEA
Total/NA	Prep	5030B	DL		186594	04/10/15 17:15	IWH	TAL SEA
Total/NA	Analysis	8260C	DL	1	187110	04/17/15 13:02	CJ	TAL SEA
Total/NA	Prep	5030B	DL2		186594	04/10/15 17:15	IWH	TAL SEA
Total/NA	Analysis	8260C	DL2	1	187110	04/17/15 14:38	CJ	TAL SEA
Total/NA	Prep	3550B			186440	04/09/15 13:32	MKN	TAL SEA
Total/NA	Analysis	8270C SIM		1	186538	04/10/15 23:05	AHP	TAL SEA
Total/NA	Prep	3550B			186440	04/09/15 13:32	MKN	TAL SEA
Total/NA	Analysis	8270D		5	186982	04/16/15 12:24	AHP	TAL SEA
Total/NA	Prep	5030B			186478	04/09/15 16:48	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	186483	04/09/15 22:14	CJ	TAL SEA
Total/NA	Prep	3550B			186369	04/08/15 13:57	EKK	TAL SEA
Total/NA	Analysis	8082		1	186462	04/09/15 22:01	EKK	TAL SEA
Total/NA	Prep	3546			186786	04/14/15 13:21	EKK	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	186829	04/15/15 17:25	EKK	TAL SEA
Total/NA	Prep	3050B			186381	04/08/15 15:34	PAB	TAL SEA
Total/NA	Analysis	6020		10	186402	04/09/15 01:54	FCW	TAL SEA
Total/NA	Prep	7471A			186684	04/13/15 11:27	PAB	TAL SEA
Total/NA	Analysis	7471A		100	186750	04/13/15 17:11	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	186529	04/10/15 10:26	PAB	TAL SEA
Total/NA	Analysis	7471A			186750	04/13/15 17:11	FCW	TAL SEA

Client Sample ID: HDW-3A -16

Date Collected: 04/03/15 09:45 Date Received: 04/03/15 14:10 Lab Sample ID: 580-48652-2 **Matrix: Solid**

Percent Solids: 91.9

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			186594	04/10/15 17:15	IWH	TAL SEA
Total/NA	Analysis	8260C		1	187110	04/17/15 12:01	CJ	TAL SEA
Total/NA	Prep	5030B			186478	04/09/15 16:48	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	186483	04/09/15 20:41	CJ	TAL SEA
Total/NA	Prep	3546			186786	04/14/15 13:21	EKK	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	186829	04/15/15 18:01	EKK	TAL SEA
Total/NA	Analysis	D 2216		1	187023	04/16/15 13:43	MKN	TAL SEA

Client Sample ID: HDW-3B -12

Date Collected: 04/03/15 10:00

Date Received: 04/03/15 14:10

Lab Sample ID: 580-48652-3

Matrix: Solid Percent Solids: 92.3

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			186594	04/10/15 17:15	IWH	TAL SEA

Lab Chronicle

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1

SDG: Crown Cork & Seal

Client Sample ID: HDW-3B -12

Date Collected: 04/03/15 10:00 Date Received: 04/03/15 14:10

Lab Sample ID: 580-48652-3

Matrix: Solid Percent Solids: 92.3

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	187110	04/17/15 12:31	CJ	TAL SEA
Total/NA	Prep	5030B			186478	04/09/15 16:48	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	186483	04/09/15 21:12	CJ	TAL SEA
Total/NA	Prep	3546			186786	04/14/15 13:21	EKK	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	186829	04/15/15 18:19	EKK	TAL SEA
Total/NA	Analysis	D 2216		1	187023	04/16/15 13:43	MKN	TAL SEA

Client Sample ID: HDW-3B -18 Lab Sample ID: 580-48652-4

Date Collected: 04/03/15 10:30 **Matrix: Solid** Date Received: 04/03/15 14:10 Percent Solids: 90.5

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			186594	04/10/15 17:15	IWH	TAL SEA
Total/NA	Analysis	8260C		1	186928	04/16/15 00:34	CJ	TAL SEA
Total/NA	Prep	5030B			186478	04/09/15 16:48	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	186483	04/09/15 21:43	CJ	TAL SEA
Total/NA	Prep	3546			186786	04/14/15 13:21	EKK	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	186829	04/15/15 18:38	EKK	TAL SEA
Total/NA	Analysis	D 2216		1	187023	04/16/15 13:43	MKN	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: URS Corporation TestAmerica Job ID: 580-48652-1
Project/Site: Mecox SDG: Crown Cork & Seal

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-16
California	State Program	9	2901	01-31-17
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-15
US Fish & Wildlife	Federal		LE192332-0	02-28-16
USDA	Federal		P330-11-00222	04-08-17
Washington	State Program	10	C553	02-17-16

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Sample Summary

Client: URS Corporation Project/Site: Mecox

TestAmerica Job ID: 580-48652-1

SDG: Crown Cork & Seal

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-48652-1	HDW-3A -9	Solid	04/03/15 09:30	04/03/15 14:10
580-48652-2	HDW-3A -16	Solid	04/03/15 09:45	04/03/15 14:10
580-48652-3	HDW-3B -12	Solid	04/03/15 10:00	04/03/15 14:10
580-48652-4	HDW-3B -18	Solid	04/03/15 10:30	04/03/15 14:10

TestAmerica Portland

9405 30 Minbus Avenue

Phone: 503,906,9200 Fax:

Beaverton, OR 97008

Chain of Custody Record

580-48652 Chain of Custody

TING

Regulatory Program: DW DNPDES RCRA Other: Project Manager: 5 2 Client Contact Site Contact: Date: 4-3-15 Company Name: ASCOM Tel/Fax: Lab Contact: S. Morph Carrier: COCs SN Glumba **Analysis Turnaround Time** Sampler: City/State/Zip: Dor Mand , DL 97206 CALENDAR DAYS WORKING DAYS For Lab Use Only: Phone: Walk-in Client: TAT if different from Below Lab Sampling: Fax: 2 weeks Project Name: MECOX 1 week Crown Carter Sew Job / SDG No.: 2 days P O # 1 day Sample Type Sample Sample (C=Comp, Sample Identification Date Time G=Grab) Matrix Cont. Sample Specific Notes: 930 4-3-15 50,1 945 10w-3B 1000 1030 HDW-373 Preservation Used: 1=1ce, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample. Unknown Poison B Return to Client Disposal by Lab Flammable Special Instructions/QC Requirements & Comments: ATN: Sarah Murph 0.1°C IR/G-1 Cooler Temp. (°C): Obs'd: Therm ID No.: Corr'd: Custody Seals Intact: Custody Seal No .: Received by: Date/Time: Date/Time: Company: 4/3/15 1410 413/15 TAP OITH Relinguished by: Received by: Company: Company: Date/Time: Relinquished by: Date/Time: Received in Laboratory by: Company: Company:









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Client: URS Corporation

Job Number: 580-48652-1 SDG Number: Crown Cork & Seal

List Source: TestAmerica Seattle

Login Number: 48652

List Number: 1 Creator: Lehman, Clarissa A

Sample containers have legible labels.

Containers are not broken or leaking.

Sample bottles are completely filled.

Multiphasic samples are not present.

Samples do not require splitting or compositing.

Sample Preservation Verified.

Residual Chlorine Checked.

MS/MSDs

<6mm (1/4").

Sample collection date/times are provided.

There is sufficient vol. for all requested analyses, incl. any requested

Containers requiring zero headspace have no headspace or bubble is

Appropriate sample containers are used.

Question Answer Comment Radioactivity wasn't checked or is </= background as measured by a survey N/A N/A The cooler's custody seal, if present, is intact. N/A Sample custody seals, if present, are intact. The cooler or samples do not appear to have been compromised or True tampered with. True Samples were received on ice. Cooler Temperature is acceptable. True Cooler Temperature is recorded. True COC is present. True COC is filled out in ink and legible. True COC is filled out with all pertinent information. True Is the Field Sampler's name present on COC? True There are no discrepancies between the containers received and the COC. True Samples are received within Holding Time. True

True

True

True

True True

N/A

True

N/A

N/A

N/A

N/A



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle 5755 8th Street East Tacoma, WA 98424 Tel: (253)922-2310

TestAmerica Job ID: 580-49123-1

TestAmerica Sample Delivery Group: OR Client Project/Site: Crown, Cork & Seal

Revision: 1

For:

URS Corporation 111 SW Columbia Suite 1500 Portland, Oregon 97201-5814

Attn: Mr. Stephen Roberts

Sand Murphy

Authorized for release by: 5/4/2015 9:48:25 AM

Sarah Murphy, Project Manager I (253)922-2310

sarah.murphy@testamericainc.com

.....LINKS

Review your project results through

Total Access

Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: URS Corporation Project/Site: Crown, Cork & Seal TestAmerica Job ID: 580-49123-1 SDG: OR

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Case Narrative

Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Job ID: 580-49123-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-49123-1

Comments

Report revised 04/04/2015 to reflect corrected sample ID for sample 580-49123-7.

Receipt

The samples were received on 4/17/2015 5:30 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 6 coolers at receipt time were 3.9° C, 4.9° C, 5.0° C, 5.1° C, 5.3° C and 5.6° C.

Except: The following sample was submitted for analysis; however, it was not listed on the Chain-of-Custody (COC): MW-3 DUP (580-49123-2)

A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain of Custody (COC).

GC/MS VOA

Method 8260B: The method blank for batch 187604 contained 1,2,4-Trimethylbenzene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260B: The %RPD of the laboratory control standard duplicate (LCSD) for preparation batch187604 recovered outside control limits for the following analytes: Trichlorofluoromethane.

Method 8260B: The method blank for 188017 contained Methylene Chloride, a common lab contaminant, above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed. (MB 580-188017/14)

Method 8260B: The continuing calibration verification (CCV) associated with batch 188017 recovered above the upper control limit for vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. (580-49264-B-3)

Method 8260B: The following samples were reanalyzed due to a potential lab contamination of methylene chloride during the original analysis: MW-3 (580-49123-1), MW-3 DUP (580-49123-2), MW-5 (580-49123-3), MW-4 (580-49123-4), MW-1 (580-49123-5), MW-2 (580-49123-6) and Trip Blank (580-49123-9). Results are reported from the reanalysis.

Method 8260C: The method blank for batch 187881 contained Toluene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8260C: AB: 187992: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch187881 was outside criteria for the following analytes: Acetone, 2-Butanone (MEK), 2-Hexanone, 4-Methyl-2-pentanone (MIBK), Chloroethane, and Vinyl chloride. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analytes is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method 8270D: The method blank for 580-187566 contained Diethyl phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8270D: In analytical batch 580-187816, the laboratory control sample (LCS) for prep batch 580-187551 recovered outside control limits for Bis(2-ethylhexyl)phthalate. This analyte was biased high in the LCS and was not detected above the RL in the associated samples with the exception of sample 6. Sample 6 was re-extracted outside of hold. Both sets of data are reported. MW-3 (580-49123-1), MW-3 DUP (580-49123-2), MW-5 (580-49123-3), MW-4 (580-49123-4), MW-1 (580-49123-5) and MW-2 (580-49123-6); therefore, the data have been reported.

Method 8270D: The %RPD of the laboratory control sample (LCS) and laboratory control standard duplicate (LCSD) for preparation batch

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Case Narrative

Client: URS Corporation

TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal

SDG: OR

Job ID: 580-49123-1 (Continued)

Laboratory: TestAmerica Seattle (Continued)

580-187551 recovered outside control limits for the following analytes: Bis(2-ethylhexyl)phthalate.

Method 8270D: The continuing calibration verification (CCV) associated with batch 580-187816 recovered above the upper control limit for Butyl benzyl phthalate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MW-3 (580-49123-1), MW-3 DUP (580-49123-2), MW-5 (580-49123-3), MW-4 (580-49123-4), MW-1 (580-49123-5), MW-2 (580-49123-6), (CCVIS 580-187816/3), (LCS 580-187551/2-A) and (LCSD 580-187551/3-A).

Method 8270D: The following analyte recovered outside control limits for the LCS associated with 580-187551: Bis(2-ethylhexyl)phthalate. This analyte was outside the Marginal Exceedance Limits and was detected in associated sample MW-2 (580-49123-6), (LCS 580-187551/2-A) and (LCSD 580-187551/3-A); therefore, re-extraction and/or re-analysis was performed outside of holding time. Both sets of data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method NWTPH-Dx: In analysis batch 580-187692, the following sample from prep batch 580-187563 contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: OF-2 Overthrow Control Basin (580-49123-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method(s) 3520C: In batch 187889, the following sample was prepared outside of preparation holding time due to phthalate contamination in the original batch: MW-2 (580-49123-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Definitions/Glossary

Client: URS Corporation

TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal SDG: OR

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
В	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	RPD of the LCS and LCSD exceeds the control limits
۸	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

GC/MS Semi VOA

Qualifier Description
LCS or LCSD is outside acceptance limits.
RPD of the LCS and LCSD exceeds the control limits
ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Sample was prepped or analyzed beyond the specified holding time
MS and/or MSD Recovery is outside acceptance limits.

GC Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
Y	The chromatographic response resembles a typical fuel pattern.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

These commonly used abbreviations may or may not be present in this report.

Glossary Abbreviation

¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client: URS Corporation

Client Sample ID: MW-3

Date Collected: 04/17/15 09:10

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Lab Sample ID: 580-49123-1

Matrix: Water

Method: 8260B - Volatile Orga	anic Compounds	(GC/MS)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 18:38	1
2-Chlorotoluene	ND		0.50	0.070	ug/L			04/23/15 18:38	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			04/23/15 18:38	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			04/23/15 18:38	1
cis-1,3-Dichloropropene	ND		0.50	0.090	ug/L			04/23/15 18:38	1
Chlorobenzene	ND		0.20	0.025	ug/L			04/23/15 18:38	1
Vinyl chloride	ND		0.020	0.013	ug/L			04/23/15 18:38	1
sec-Butylbenzene	ND		0.50	0.070	ug/L			04/23/15 18:38	1
Dibromomethane	ND		0.20	0.025	ug/L			04/23/15 18:38	1
m-Xylene & p-Xylene	ND		0.50	0.050	ug/L			04/23/15 18:38	1
o-Xylene	ND		0.50	0.060	ug/L			04/23/15 18:38	1
1,2,4-Trichlorobenzene	ND		0.20	0.040	ug/L			04/23/15 18:38	1
Styrene	ND		0.50	0.10	ug/L			04/23/15 18:38	1
Chlorobromomethane	ND		0.20	0.025	ug/L			04/23/15 18:38	1
Dichlorobromomethane	ND		0.20	0.025	ug/L			04/23/15 18:38	,

Analyte	Result Qu	ualifier RL	MDL		D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND	0.30	0.050	ug/L			04/23/15 18:38	1
2-Chlorotoluene	ND	0.50	0.070	ug/L			04/23/15 18:38	1
1,2,3-Trichloropropane	ND	0.20	0.050	ug/L			04/23/15 18:38	1
Carbon tetrachloride	ND	0.20	0.025	ug/L			04/23/15 18:38	1
cis-1,3-Dichloropropene	ND	0.50	0.090	ug/L			04/23/15 18:38	1
Chlorobenzene	ND	0.20	0.025	ug/L			04/23/15 18:38	1
Vinyl chloride	ND	0.020	0.013	ug/L			04/23/15 18:38	1
sec-Butylbenzene	ND	0.50	0.070	ug/L			04/23/15 18:38	1
Dibromomethane	ND	0.20	0.025	ug/L			04/23/15 18:38	1
m-Xylene & p-Xylene	ND	0.50	0.050	ug/L			04/23/15 18:38	1
o-Xylene	ND	0.50	0.060	ug/L			04/23/15 18:38	1
1,2,4-Trichlorobenzene	ND	0.20	0.040	ug/L			04/23/15 18:38	1
Styrene	ND	0.50	0.10	ug/L			04/23/15 18:38	1
Chlorobromomethane	ND	0.20	0.025	ug/L			04/23/15 18:38	1
Dichlorobromomethane	ND	0.20	0.025	ug/L			04/23/15 18:38	1
1,3-Dichlorobenzene	ND	0.30	0.050	ug/L			04/23/15 18:38	1
Benzene	ND	0.20	0.025	ug/L			04/23/15 18:38	1
Chloroethane	ND	0.50	0.075	ug/L			04/23/15 18:38	1
trans-1,3-Dichloropropene	ND	0.20	0.025	ug/L			04/23/15 18:38	1
1,2,3-Trichlorobenzene	ND	0.50	0.10	ug/L			04/23/15 18:38	1
N-Propylbenzene	ND	0.20	0.025	ug/L			04/23/15 18:38	1
4-Isopropyltoluene	ND	0.30	0.050	ug/L			04/23/15 18:38	1
n-Butylbenzene	ND	0.50	0.080	ug/L			04/23/15 18:38	1
1,1-Dichloropropene	ND	0.10	0.015	ug/L			04/23/15 18:38	1
cis-1,2-Dichloroethene	ND	0.20	0.025	ug/L			04/23/15 18:38	1
1,1,2,2-Tetrachloroethane	ND	0.20	0.025	ug/L			04/23/15 18:38	1
1,2,4-Trimethylbenzene	0.049 J	B 0.20	0.030	ug/L			04/23/15 18:38	1
Toluene	ND	0.20	0.025	ug/L			04/23/15 18:38	1
Naphthalene	ND	0.50	0.10	ug/L			04/23/15 18:38	1
1,3,5-Trimethylbenzene	ND	0.50	0.083	ug/L			04/23/15 18:38	1
1,3-Dichloropropane	ND	0.20	0.025	ug/L			04/23/15 18:38	1
Chloroform	0.99	0.20	0.030	ug/L			04/23/15 18:38	1
4-Chlorotoluene	ND	0.30	0.050	ug/L			04/23/15 18:38	1
Chlorodibromomethane	ND	0.20	0.025	ug/L			04/23/15 18:38	1
Dichlorodifluoromethane	ND	0.40	0.050	ug/L			04/23/15 18:38	1
1,1,2-Trichloroethane	ND	0.20	0.025	ug/L			04/23/15 18:38	1
tert-Butylbenzene	ND	0.50	0.10	ug/L			04/23/15 18:38	1
Chloromethane	ND	0.30	0.050	ug/L			04/23/15 18:38	1
1,1-Dichloroethene	0.25	0.10	0.018	_			04/23/15 18:38	1
Isopropylbenzene	ND	0.50	0.060	ug/L			04/23/15 18:38	1
1,2-Dichloroethane	ND	0.20	0.025	ug/L			04/23/15 18:38	1
Tetrachloroethene	0.16 J	0.50	0.070	ug/L			04/23/15 18:38	1
1,1,1-Trichloroethane	1.2	0.20	0.025	ug/L			04/23/15 18:38	1
2,2-Dichloropropane	ND	0.50	0.060	ug/L			04/23/15 18:38	1
1,2-Dibromoethane	ND	0.10	0.025	ug/L			04/23/15 18:38	1
Bromoform	ND	0.50	0.080	ug/L			04/23/15 18:38	1
1,2-Dibromo-3-Chloropropane	ND	2.0	0.44	ug/L			04/23/15 18:38	1
Trichlorofluoromethane	ND *	0.50	0.025	ug/L			04/23/15 18:38	1
Trichloroethene	ND	0.20	0.025	ug/L			04/23/15 18:38	1

Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Client Sample ID: MW-3

Date Collected: 04/17/15 09:10 Date Received: 04/17/15 17:30

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Lab Sample ID: 580-49123-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		0.20	0.035	ug/L			04/23/15 18:38	1
1,2-Dichloropropane	ND		0.20	0.025	ug/L			04/23/15 18:38	1
1,1,1,2-Tetrachloroethane	ND		0.20	0.025	ug/L			04/23/15 18:38	1
Ethylbenzene	ND		0.20	0.030	ug/L			04/23/15 18:38	1
trans-1,2-Dichloroethene	ND		0.20	0.025	ug/L			04/23/15 18:38	1
Hexachlorobutadiene	ND		0.50	0.075	ug/L			04/23/15 18:38	1
1,1-Dichloroethane	0.42		0.20	0.025	ug/L			04/23/15 18:38	1
Bromomethane	ND		1.0	0.16	ug/L			04/23/15 18:38	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 18:38	1
Methyl tert-butyl ether	ND		0.20	0.025	ug/L			04/23/15 18:38	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	103		75 - 120			-		04/23/15 18:38	1
Trifluorotoluene (Surr)	108		80 - 127					04/23/15 18:38	1
Toluene-d8 (Surr)	97		75 - 125					04/23/15 18:38	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 128					04/23/15 18:38	1
Dibromofluoromethane (Surr)	105		85 ₋ 115					04/23/15 18:38	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	0.47	J B	0.50	0.11	ug/L			04/28/15 16:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		75 - 120			-		04/28/15 16:15	1
Trifluorotoluene (Surr)	100		80 - 127					04/28/15 16:15	1
Toluene-d8 (Surr)	100		75 - 125					04/28/15 16:15	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 128					04/28/15 16:15	1
Dibromofluoromethane (Surr)	101		85 - 115					04/28/15 16:15	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.020	0.0072	ug/L		04/22/15 19:16	04/25/15 16:19	1
Acenaphthylene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 16:19	1
Acenaphthene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 16:19	1
Fluorene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 16:19	1
Phenanthrene	0.017	J	0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 16:19	1
Anthracene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 16:19	1
Fluoranthene	0.016	J	0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 16:19	1
Pyrene	0.0096	J	0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 16:19	1
Benzo[a]anthracene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 16:19	1
Chrysene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 16:19	1
Benzo[a]pyrene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 16:19	1
Indeno[1,2,3-cd]pyrene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 16:19	1
Dibenz(a,h)anthracene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 16:19	1
Benzo[g,h,i]perylene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 16:19	1
Benzo[b]fluoranthene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 16:19	1
Benzo[k]fluoranthene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 16:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	98		64 - 150				04/22/15 19:16	04/25/15 16:19	1

TestAmerica Seattle

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Client: URS Corporation

Project/Site: Crown, Cork & Seal

Client Sample ID: MW-3

Date Collected: 04/17/15 09:10

Date Received: 04/17/15 17:30

TestAmerica Job ID: 580-49123-1

SDG: OR

Lab Sample ID: 580-49123-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND	*	3.0	1.2	ug/L		04/22/15 19:16	04/25/15 22:10	1
Butyl benzyl phthalate	ND	٨	0.60	0.20	ug/L		04/22/15 19:16	04/25/15 22:10	1
Diethyl phthalate	ND		0.40	0.10	ug/L		04/22/15 19:16	04/25/15 22:10	1
Dimethyl phthalate	ND		0.40	0.10	ug/L		04/22/15 19:16	04/25/15 22:10	1
Di-n-butyl phthalate	ND		0.40	0.13	ug/L		04/22/15 19:16	04/25/15 22:10	1
Di-n-octyl phthalate	ND		0.40	0.18	ug/L		04/22/15 19:16	04/25/15 22:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	100		44 - 125				04/22/15 19:16	04/25/15 22:10	1
2-Fluorobiphenyl	79		50 - 120				04/22/15 19:16	04/25/15 22:10	1
2-Fluorophenol (Surr)	77		30 - 134				04/22/15 19:16	04/25/15 22:10	1
Nitrobenzene-d5 (Surr)	92		59 - 120				04/22/15 19:16	04/25/15 22:10	1
Phenol-d5 (Surr)	85		52 - 120				04/22/15 19:16	04/25/15 22:10	1
Terphenyl-d14 (Surr)	101		64 - 150				04/22/15 19:16	04/25/15 22:10	1

Wethod: NWTPH-GX - Northwest	- voiatile Petro	Dieum Prod	ucts (GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050	0.027	mg/L			04/23/15 21:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150			-		04/23/15 21:43	1
Trifluorotoluene (Surr)	115		50 - 150					04/23/15 21:43	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.52	0.047	ug/L		04/22/15 15:24	04/25/15 00:36	1
PCB-1221	ND		0.52	0.064	ug/L		04/22/15 15:24	04/25/15 00:36	1
PCB-1232	ND		0.52	0.042	ug/L		04/22/15 15:24	04/25/15 00:36	1
PCB-1242	ND		0.52	0.042	ug/L		04/22/15 15:24	04/25/15 00:36	1
PCB-1248	ND		0.52	0.073	ug/L		04/22/15 15:24	04/25/15 00:36	1
PCB-1254	ND		0.52	0.046	ug/L		04/22/15 15:24	04/25/15 00:36	1
PCB-1260	ND		0.52	0.040	ug/L		04/22/15 15:24	04/25/15 00:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	73		38 - 121	04/22/15 15:24	04/25/15 00:36	1
Tetrachloro-m-xylene	64		26 - 124	04/22/15 15:24	04/25/15 00:36	1

Method: NWTPH-Dx - North	west - Semi-Volatile	Petroleum	Products (GC))					
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	0.019	J	0.11	0.015	mg/L		04/27/15 17:55	04/28/15 10:09	1
Motor Oil (>C24-C36)	0.013	J	0.25	0.010	mg/L		04/27/15 17:55	04/28/15 10:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	73		50 - 150				04/27/15 17:55	04/28/15 10:09	

- Method: 6020 - Metals (IC	CP/MS) - Total Recover	able							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0014	mg/L		04/24/15 18:21	04/25/15 11:29	5
Barium	0.039		0.0060	0.00027	mg/L		04/24/15 18:21	04/25/15 11:29	5
Cadmium	ND		0.0020	0.00014	mg/L		04/24/15 18:21	04/25/15 11:29	5
Chromium	0.0034		0.0020	0.00071	mg/L		04/24/15 18:21	04/25/15 11:29	5

Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Client Sample ID: MW-3

Date Received: 04/17/15 17:30

Date Collected: 04/17/15 09:10

Lab Sample ID: 580-49123-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00019	J	0.0020	0.00017	mg/L		04/24/15 18:21	04/25/15 11:29	5
Selenium	ND		0.0050	0.0015	mg/L		04/24/15 18:21	04/25/15 11:29	5
Silver	ND		0.0020	0.00015	mg/L		04/24/15 18:21	04/25/15 11:29	5
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		04/21/15 10:37	04/21/15 16:07	1

Client: URS Corporation

Client Sample ID: MW-3 DUP

Date Collected: 04/17/15 09:10

Date Received: 04/17/15 17:30

Trichloroethene

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Lab Sample ID: 580-49123-2

Matrix: Water

Analyte	Result Qualifier	RL _	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND	0.30	0.050	ug/L			04/23/15 19:04	•
2-Chlorotoluene	ND	0.50	0.070	ug/L			04/23/15 19:04	•
1,2,3-Trichloropropane	ND	0.20	0.050	ug/L			04/23/15 19:04	
Carbon tetrachloride	ND	0.20	0.025	ug/L			04/23/15 19:04	
cis-1,3-Dichloropropene	ND	0.50	0.090	ug/L			04/23/15 19:04	
Chlorobenzene	ND	0.20	0.025	ug/L			04/23/15 19:04	
Vinyl chloride	ND	0.020	0.013	ug/L			04/23/15 19:04	
sec-Butylbenzene	ND	0.50	0.070	ug/L			04/23/15 19:04	
Dibromomethane	ND	0.20	0.025	ug/L			04/23/15 19:04	
m-Xylene & p-Xylene	ND	0.50	0.050	ug/L			04/23/15 19:04	
o-Xylene	ND	0.50	0.060	ug/L			04/23/15 19:04	
1,2,4-Trichlorobenzene	ND	0.20	0.040	ug/L			04/23/15 19:04	
Styrene	ND	0.50	0.10	ug/L			04/23/15 19:04	
Chlorobromomethane	ND	0.20	0.025	ug/L			04/23/15 19:04	
Dichlorobromomethane	ND	0.20	0.025	ug/L			04/23/15 19:04	
1,3-Dichlorobenzene	ND	0.30	0.050	ug/L			04/23/15 19:04	
Benzene	ND	0.20	0.025	ug/L			04/23/15 19:04	
Chloroethane	ND	0.50	0.075				04/23/15 19:04	
trans-1,3-Dichloropropene	ND	0.20	0.025	ug/L			04/23/15 19:04	· · · · · · · .
1,2,3-Trichlorobenzene	ND	0.50		ug/L			04/23/15 19:04	
N-Propylbenzene	ND	0.20	0.025	-			04/23/15 19:04	
4-Isopropyltoluene	ND	0.30	0.050				04/23/15 19:04	
n-Butylbenzene	ND	0.50	0.080				04/23/15 19:04	
1,1-Dichloropropene	ND	0.10	0.015				04/23/15 19:04	
cis-1,2-Dichloroethene	ND	0.20	0.025				04/23/15 19:04	
1,1,2,2-Tetrachloroethane	ND	0.20	0.025	-			04/23/15 19:04	
1,2,4-Trimethylbenzene	0.039 JB	0.20	0.030	_			04/23/15 19:04	
Toluene	ND	0.20	0.025				04/23/15 19:04	
Naphthalene	ND	0.50		_			04/23/15 19:04	
1,3,5-Trimethylbenzene	ND	0.50	0.083	•			04/23/15 19:04	
1,3-Dichloropropane	ND	0.20					04/23/15 19:04	
Chloroform	1.0	0.20		•			04/23/15 19:04	
4-Chlorotoluene	ND	0.30	0.050	•			04/23/15 19:04	
Chlorodibromomethane	ND	0.20	0.025				04/23/15 19:04	
Dichlorodifluoromethane	ND	0.40	0.050	_			04/23/15 19:04	
1,1,2-Trichloroethane	ND	0.20	0.025	-			04/23/15 19:04	
tert-Butylbenzene	ND	0.50		ug/L			04/23/15 19:04	· · · · · · · .
Chloromethane	ND	0.30	0.050				04/23/15 19:04	
1,1-Dichloroethene	0.23	0.10	0.018	-			04/23/15 19:04	
Isopropylbenzene	ND	0.50	0.060	.			04/23/15 19:04	
1,2-Dichloroethane	ND	0.20	0.025	_			04/23/15 19:04	
Tetrachloroethene	0.15 J	0.50	0.070	•			04/23/15 19:04	
1,1,1-Trichloroethane	1.3	0.20	0.025				04/23/15 19:04	
2,2-Dichloropropane	ND	0.50	0.060	•			04/23/15 19:04	
1,2-Dibromoethane	ND	0.10	0.025	_			04/23/15 19:04	
Bromoform	ND	0.50	0.080				04/23/15 19:04	
1,2-Dibromo-3-Chloropropane	ND	2.0		ug/L			04/23/15 19:04	
Trichlorofluoromethane	ND *	0.50	0.025	-			04/23/15 19:04	
	NP	0.00	0.020	/I			04/23/15 19:04	

TestAmerica Seattle

04/23/15 19:04

0.20

0.025 ug/L

Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Client Sample ID: MW-3 DUP

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Date Collected: 04/17/15 09:10 Date Received: 04/17/15 17:30 Lab Sample ID: 580-49123-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		0.20	0.035	ug/L			04/23/15 19:04	1
1,2-Dichloropropane	ND		0.20	0.025	ug/L			04/23/15 19:04	1
1,1,1,2-Tetrachloroethane	ND		0.20	0.025	ug/L			04/23/15 19:04	1
Ethylbenzene	ND		0.20	0.030	ug/L			04/23/15 19:04	1
trans-1,2-Dichloroethene	ND		0.20	0.025	ug/L			04/23/15 19:04	1
Hexachlorobutadiene	ND		0.50	0.075	ug/L			04/23/15 19:04	1
1,1-Dichloroethane	0.43		0.20	0.025	ug/L			04/23/15 19:04	1
Bromomethane	ND		1.0	0.16	ug/L			04/23/15 19:04	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 19:04	1
Methyl tert-butyl ether	ND		0.20	0.025	ug/L			04/23/15 19:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		75 - 120			-		04/23/15 19:04	1
Trifluorotoluene (Surr)	105		80 - 127					04/23/15 19:04	1
Toluene-d8 (Surr)	95		75 - 125					04/23/15 19:04	1
1,2-Dichloroethane-d4 (Surr)	108		70 - 128					04/23/15 19:04	1
Dibromofluoromethane (Surr)	109		85 ₋ 115					04/23/15 19:04	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	0.41	J B	0.50	0.11	ug/L			04/28/15 16:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		75 - 120			-		04/28/15 16:41	1
Trifluorotoluene (Surr)	99		80 - 127					04/28/15 16:41	1
Toluene-d8 (Surr)	99		75 - 125					04/28/15 16:41	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 128					04/28/15 16:41	1
Dibromofluoromethane (Surr)	102		85 - 115					04/28/15 16:41	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.020	0.0071	ug/L		04/22/15 19:16	04/25/15 16:41	1
Acenaphthylene	ND		0.020	0.0059	ug/L		04/22/15 19:16	04/25/15 16:41	1
Acenaphthene	ND		0.020	0.0059	ug/L		04/22/15 19:16	04/25/15 16:41	1
Fluorene	ND		0.020	0.0059	ug/L		04/22/15 19:16	04/25/15 16:41	1
Phenanthrene	0.017	J	0.020	0.0059	ug/L		04/22/15 19:16	04/25/15 16:41	1
Anthracene	ND		0.020	0.0059	ug/L		04/22/15 19:16	04/25/15 16:41	1
Fluoranthene	0.017	J	0.020	0.0059	ug/L		04/22/15 19:16	04/25/15 16:41	1
Pyrene	0.010	J	0.020	0.0059	ug/L		04/22/15 19:16	04/25/15 16:41	1
Benzo[a]anthracene	ND		0.020	0.0059	ug/L		04/22/15 19:16	04/25/15 16:41	1
Chrysene	ND		0.020	0.0059	ug/L		04/22/15 19:16	04/25/15 16:41	1
Benzo[a]pyrene	ND		0.020	0.0059	ug/L		04/22/15 19:16	04/25/15 16:41	1
Indeno[1,2,3-cd]pyrene	ND		0.020	0.0059	ug/L		04/22/15 19:16	04/25/15 16:41	1
Dibenz(a,h)anthracene	ND		0.020	0.0059	ug/L		04/22/15 19:16	04/25/15 16:41	1
Benzo[g,h,i]perylene	ND		0.020	0.0059	ug/L		04/22/15 19:16	04/25/15 16:41	1
Benzo[b]fluoranthene	ND		0.020	0.0059	ug/L		04/22/15 19:16	04/25/15 16:41	1
Benzo[k]fluoranthene	ND		0.020	0.0059	ug/L		04/22/15 19:16	04/25/15 16:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	94		64 - 150				04/22/15 19:16	04/25/15 16:41	1

TestAmerica Seattle

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Client: URS Corporation

Motor Oil (>C24-C36)

Project/Site: Crown, Cork & Seal

Date Received: 04/17/15 17:30

TestAmerica Job ID: 580-49123-1

SDG: OR

Client Sample ID: MW-3 DUP Lab Sample ID: 580-49123-2 Date Collected: 04/17/15 09:10

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND	*	2.9	1.2	ug/L		04/22/15 19:16	04/25/15 22:35	1
Butyl benzyl phthalate	ND	٨	0.59	0.20	ug/L		04/22/15 19:16	04/25/15 22:35	1
Diethyl phthalate	ND		0.39	0.098	ug/L		04/22/15 19:16	04/25/15 22:35	1
Dimethyl phthalate	ND		0.39	0.098	ug/L		04/22/15 19:16	04/25/15 22:35	1
Di-n-butyl phthalate	ND		0.39	0.13	ug/L		04/22/15 19:16	04/25/15 22:35	1
Di-n-octyl phthalate	ND		0.39	0.18	ug/L		04/22/15 19:16	04/25/15 22:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	92		44 - 125				04/22/15 19:16	04/25/15 22:35	1
2-Fluorobiphenyl	78		50 - 120				04/22/15 19:16	04/25/15 22:35	1
2-Fluorophenol (Surr)	74		30 - 134				04/22/15 19:16	04/25/15 22:35	1
Nitrobenzene-d5 (Surr)	89		59 - 120				04/22/15 19:16	04/25/15 22:35	1
Phenol-d5 (Surr)	78		52 - 120				04/22/15 19:16	04/25/15 22:35	1
Terphenyl-d14 (Surr)	99		64 - 150				04/22/15 19:16	04/25/15 22:35	1

Method: NWTPH-Gx - Northwest - '	Volatile Petro	oleum Prodi	ucts (GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050	0.027	mg/L			04/23/15 22:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150			_		04/23/15 22:14	1
Trifluorotoluene (Surr)	112		50 - 150					04/23/15 22:14	1

Method: 8082 - Polychl	lorinated Biphenyls (PCE	Bs) by Gas	Chromatograph	ıy					
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.045	ug/L		04/22/15 15:24	04/25/15 00:53	1
PCB-1221	ND		0.50	0.062	ug/L		04/22/15 15:24	04/25/15 00:53	1
PCB-1232	ND		0.50	0.041	ug/L		04/22/15 15:24	04/25/15 00:53	1
PCB-1242	ND		0.50	0.041	ug/L		04/22/15 15:24	04/25/15 00:53	1
PCB-1248	ND		0.50	0.071	ug/L		04/22/15 15:24	04/25/15 00:53	1
PCB-1254	ND		0.50	0.044	ug/L		04/22/15 15:24	04/25/15 00:53	1
PCB-1260	ND		0.50	0.039	ug/L		04/22/15 15:24	04/25/15 00:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analvzed	Dil Fac

#2 Diesel (C10-C24)	0.017	.1	0.11	0.015	ma/l		04/27/15 17:55	04/28/15 10:28	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Method: NWTPH-Dx - Northwes	st - Semi-Volatile	Petroleum	Products (GC)						
Tetrachloro-m-xylene	84		26 - 124				04/22/15 15:24	04/25/15 00:53	1
DCB Decachlorobiphenyl	89		38 - 121				04/22/15 15:24	04/25/15 00:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	76		50 - 150	04/27/15 17:55	04/28/15 10:28	1

0.25

0.013 J

0.0099 mg/L

04/27/15 17:55

Method: 6020 - Metals (ICP/MS) - Total Recoverable													
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac				
Arsenic	ND		0.0050	0.0014	mg/L		04/24/15 18:21	04/25/15 12:02	5				
Barium	0.038		0.0060	0.00027	mg/L		04/24/15 18:21	04/25/15 12:02	5				
Cadmium	ND		0.0020	0.00014	mg/L		04/24/15 18:21	04/25/15 12:02	5				
Chromium	0.0027		0.0020	0.00071	mg/L		04/24/15 18:21	04/25/15 12:02	5				

TestAmerica Seattle

04/28/15 10:28

Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Client Sample ID: MW-3 DUP

Date Collected: 04/17/15 09:10 Date Received: 04/17/15 17:30 Lab Sample ID: 580-49123-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00017	J	0.0020	0.00017	mg/L		04/24/15 18:21	04/25/15 12:02	- 5
Selenium	ND		0.0050	0.0015	mg/L		04/24/15 18:21	04/25/15 12:02	5
Silver —	ND		0.0020	0.00015	mg/L		04/24/15 18:21	04/25/15 12:02	5
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		04/27/15 10:29	04/27/15 12:46	1

5

8

9

10

Client: URS Corporation

TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal

Client Sample ID: MW-5 Lab Sample ID: 580-49123-3 Date Collected: 04/16/15 16:00 Matrix: Water

Date Received: 04/17/15 17:30

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND	0.30	0.050	ug/L			04/23/15 19:30	1
2-Chlorotoluene	ND	0.50	0.070	ug/L			04/23/15 19:30	1
1,2,3-Trichloropropane	ND	0.20	0.050	ug/L			04/23/15 19:30	1
Carbon tetrachloride	ND	0.20	0.025	ug/L			04/23/15 19:30	1
cis-1,3-Dichloropropene	ND	0.50	0.090	ug/L			04/23/15 19:30	1
Chlorobenzene	ND	0.20	0.025	ug/L			04/23/15 19:30	1
Vinyl chloride	ND	0.020	0.013	ug/L			04/23/15 19:30	1
sec-Butylbenzene	ND	0.50	0.070	ug/L			04/23/15 19:30	1
Dibromomethane	ND	0.20	0.025	ug/L			04/23/15 19:30	1
m-Xylene & p-Xylene	ND	0.50	0.050	ug/L			04/23/15 19:30	1
o-Xylene	ND	0.50	0.060	ug/L			04/23/15 19:30	1
1,2,4-Trichlorobenzene	ND	0.20	0.040	ug/L			04/23/15 19:30	1
Styrene	ND	0.50	0.10	ug/L			04/23/15 19:30	1
Chlorobromomethane	ND	0.20	0.025	ug/L			04/23/15 19:30	1
Dichlorobromomethane	ND	0.20	0.025	_			04/23/15 19:30	1
1,3-Dichlorobenzene	ND	0.30	0.050	ug/L			04/23/15 19:30	,
Benzene	ND	0.20	0.025				04/23/15 19:30	1
Chloroethane	ND	0.50	0.075				04/23/15 19:30	1
trans-1,3-Dichloropropene	ND	0.20	0.025				04/23/15 19:30	1
1,2,3-Trichlorobenzene	ND	0.50		ug/L			04/23/15 19:30	1
N-Propylbenzene	ND	0.20	0.025	_			04/23/15 19:30	
4-Isopropyltoluene	ND	0.30	0.050				04/23/15 19:30	
n-Butylbenzene	ND	0.50	0.080				04/23/15 19:30	1
1,1-Dichloropropene	ND	0.10	0.015				04/23/15 19:30	1
cis-1,2-Dichloroethene	ND	0.20	0.025				04/23/15 19:30	1
1,1,2,2-Tetrachloroethane	ND	0.20	0.025	-			04/23/15 19:30	1
1,2,4-Trimethylbenzene	0.043 JB	0.20	0.030	_			04/23/15 19:30	
Toluene	ND	0.20	0.025				04/23/15 19:30	
Naphthalene	ND	0.50		ug/L			04/23/15 19:30	1
1,3,5-Trimethylbenzene	ND	0.50	0.083	_			04/23/15 19:30	
1,3-Dichloropropane	ND	0.20	0.025				04/23/15 19:30	,
Chloroform	0.72	0.20	0.030				04/23/15 19:30	
4-Chlorotoluene	ND	0.30	0.050				04/23/15 19:30	
Chlorodibromomethane	ND	0.20	0.025				04/23/15 19:30	,
Dichlorodifluoromethane	ND	0.40	0.050	-			04/23/15 19:30	,
		0.20	0.025				04/23/15 19:30	
1,1,2-Trichloroethane tert-Butylbenzene	0.054 J ND	0.50		ug/L ug/L			04/23/15 19:30	· · · · · .
Chloromethane	ND	0.30	0.050				04/23/15 19:30	
		0.30		_			04/23/15 19:30	•
1,1-Dichloroethene Isopropylbenzene	0.49	0.50	0.018	_				
	ND						04/23/15 19:30	
1,2-Dichloroethane	ND	0.20	0.025	-			04/23/15 19:30	•
Tetrachloroethene	ND	0.50	0.070				04/23/15 19:30	
1,1,1-Trichloroethane	1.7 ND	0.20	0.025	_			04/23/15 19:30	•
2,2-Dichloropropane	ND	0.50	0.060	_			04/23/15 19:30	•
1,2-Dibromoethane	ND	0.10	0.025				04/23/15 19:30	
Bromoform	ND	0.50	0.080	-			04/23/15 19:30	
1,2-Dibromo-3-Chloropropane	ND	2.0		ug/L			04/23/15 19:30	,
Trichlorofluoromethane	ND *	0.50	0.025	ug/L			04/23/15 19:30	1

TestAmerica Seattle

SDG: OR

Client: URS Corporation

Project/Site: Crown, Cork & Seal

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

TestAmerica Job ID: 580-49123-1

SDG: OR

Client Sample ID: MW-5 Lab Sample ID: 580-49123-3

Date Collected: 04/16/15 16:00 Matrix: Water Date Received: 04/17/15 17:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		0.20	0.035	ug/L			04/23/15 19:30	1
1,2-Dichloropropane	ND		0.20	0.025	ug/L			04/23/15 19:30	1
1,1,1,2-Tetrachloroethane	ND		0.20	0.025	ug/L			04/23/15 19:30	1
Ethylbenzene	ND		0.20	0.030	ug/L			04/23/15 19:30	1
trans-1,2-Dichloroethene	ND		0.20	0.025	ug/L			04/23/15 19:30	1
Hexachlorobutadiene	ND		0.50	0.075	ug/L			04/23/15 19:30	1
1,1-Dichloroethane	0.27		0.20	0.025	ug/L			04/23/15 19:30	1
Bromomethane	ND		1.0	0.16	ug/L			04/23/15 19:30	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 19:30	1
Methyl tert-butyl ether	ND		0.20	0.025	ug/L			04/23/15 19:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		75 - 120			-		04/23/15 19:30	1
Trifluorotoluene (Surr)	108		80 - 127					04/23/15 19:30	1
Toluene-d8 (Surr)	96		75 - 125					04/23/15 19:30	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 128					04/23/15 19:30	1
Dibromofluoromethane (Surr)	106		85 ₋ 115					04/23/15 19:30	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	0.47	J B	0.50	0.11	ug/L			04/28/15 17:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		75 - 120			-		04/28/15 17:08	1
Trifluorotoluene (Surr)	98		80 - 127					04/28/15 17:08	1
Toluene-d8 (Surr)	99		75 - 125					04/28/15 17:08	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 128					04/28/15 17:08	1
Dibromofluoromethane (Surr)	102		85 - 115					04/28/15 17:08	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.019	0.0070	ug/L		04/22/15 19:16	04/25/15 17:03	1
Acenaphthylene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:03	1
Acenaphthene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:03	1
Fluorene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:03	1
Phenanthrene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:03	1
Anthracene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:03	1
Fluoranthene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:03	1
Pyrene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:03	1
Benzo[a]anthracene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:03	1
Chrysene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:03	1
Benzo[a]pyrene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:03	1
Indeno[1,2,3-cd]pyrene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:03	1
Dibenz(a,h)anthracene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:03	1
Benzo[g,h,i]perylene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:03	1
Benzo[b]fluoranthene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:03	1
Benzo[k]fluoranthene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	99		64 - 150				04/22/15 19:16	04/25/15 17:03	1

Client: URS Corporation

Project/Site: Crown, Cork & Seal

Date Received: 04/17/15 17:30

TestAmerica Job ID: 580-49123-1

SDG: OR

Client Sample ID: MW-5 Lab Sample ID: 580-49123-3 Date Collected: 04/16/15 16:00

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	1.6	J *	2.9	1.1	ug/L		04/22/15 19:16	04/25/15 23:01	1
Butyl benzyl phthalate	ND	٨	0.58	0.19	ug/L		04/22/15 19:16	04/25/15 23:01	1
Diethyl phthalate	ND		0.39	0.097	ug/L		04/22/15 19:16	04/25/15 23:01	1
Dimethyl phthalate	ND		0.39	0.097	ug/L		04/22/15 19:16	04/25/15 23:01	1
Di-n-butyl phthalate	ND		0.39	0.13	ug/L		04/22/15 19:16	04/25/15 23:01	1
Di-n-octyl phthalate	ND		0.39	0.18	ug/L		04/22/15 19:16	04/25/15 23:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	86		44 - 125				04/22/15 19:16	04/25/15 23:01	1
2-Fluorobiphenyl	82		50 - 120				04/22/15 19:16	04/25/15 23:01	1
2-Fluorophenol (Surr)	61		30 - 134				04/22/15 19:16	04/25/15 23:01	1
Nitrobenzene-d5 (Surr)	92		59 - 120				04/22/15 19:16	04/25/15 23:01	1
Phenol-d5 (Surr)	64		52 - 120				04/22/15 19:16	04/25/15 23:01	1
Terphenyl-d14 (Surr)	101		64 - 150				04/22/15 19:16	04/25/15 23:01	1

Method: NWTPH-Gx - Northwe	st - Volatile Petro	oleum Prod	ucts (GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		0.050	0.027	mg/L			04/23/15 22:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150					04/23/15 22:45	1
Trifluorotoluene (Surr)	440		50 - 150					04/23/15 22:45	1
Tilliuorotoluerie (Suri)	112		30 - 130					04/23/13 22.43	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.47	0.043	ug/L		04/22/15 15:24	04/25/15 01:10	1
PCB-1221	ND		0.47	0.059	ug/L		04/22/15 15:24	04/25/15 01:10	1
PCB-1232	ND		0.47	0.039	ug/L		04/22/15 15:24	04/25/15 01:10	1
PCB-1242	ND		0.47	0.039	ug/L		04/22/15 15:24	04/25/15 01:10	1
PCB-1248	ND		0.47	0.067	ug/L		04/22/15 15:24	04/25/15 01:10	1
PCB-1254	ND		0.47	0.042	ug/L		04/22/15 15:24	04/25/15 01:10	1
PCB-1260	ND		0.47	0.037	ug/L		04/22/15 15:24	04/25/15 01:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	80		38 - 121				04/22/15 15:24	04/25/15 01:10	1
Tetrachloro-m-xvlene	75		26 124				04/22/15 15:24	04/25/15 01:10	1

Method: NWTPH-Dx - North	west - Semi-Volatile	Petroleum	Products (GC)					
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11	0.014	mg/L		04/27/15 17:55	04/28/15 10:47	1
Motor Oil (>C24-C36)	0.020	J	0.24	0.0095	mg/L		04/27/15 17:55	04/28/15 10:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	69		50 - 150				04/27/15 17:55	04/28/15 10:47	1

Method: 6020 - Metals (IC	CP/MS) - Total Recover	able							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0023	J	0.0050	0.0014	mg/L		04/24/15 18:21	04/25/15 12:06	5
Barium	0.025		0.0060	0.00027	mg/L		04/24/15 18:21	04/25/15 12:06	5
Cadmium	ND		0.0020	0.00014	mg/L		04/24/15 18:21	04/25/15 12:06	5
Chromium	0.0056		0.0020	0.00071	mg/L		04/24/15 18:21	04/25/15 12:06	5

Client: URS Corporation

TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal SDG: OR

Client Sample ID: MW-5 Lab Sample ID: 580-49123-3

Date Collected: 04/16/15 16:00 Matrix: Water Date Received: 04/17/15 17:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00037	J	0.0020	0.00017	mg/L		04/24/15 18:21	04/25/15 12:06	5
Selenium	ND		0.0050	0.0015	mg/L		04/24/15 18:21	04/25/15 12:06	5
Silver -	ND		0.0020	0.00015	mg/L		04/24/15 18:21	04/25/15 12:06	5
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		04/21/15 10:37	04/21/15 16:10	1

Client: URS Corporation

Client Sample ID: MW-4

Date Collected: 04/16/15 14:30

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Lab Sample ID: 580-49123-4

Matrix: Water

Method: 8260B - Volatile Orga	nic Compounds ((GC/MS)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 19:57	1
2-Chlorotoluene	ND		0.50	0.070	ug/L			04/23/15 19:57	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			04/23/15 19:57	1
Carbon tetrachloride	0.098	J	0.20	0.025	ug/L			04/23/15 19:57	1
cis-1,3-Dichloropropene	ND		0.50	0.090	ug/L			04/23/15 19:57	1
Chlorobenzene	ND		0.20	0.025	ug/L			04/23/15 19:57	1
Vinyl chloride	ND		0.020	0.013	ug/L			04/23/15 19:57	1
sec-Butylbenzene	ND		0.50	0.070	ug/L			04/23/15 19:57	1
Dibromomethane	ND		0.20	0.025	ug/L			04/23/15 19:57	1
m-Xylene & p-Xylene	ND		0.50	0.050	ug/L			04/23/15 19:57	1
o-Xylene	ND		0.50	0.060	ug/L			04/23/15 19:57	1
1,2,4-Trichlorobenzene	ND		0.20	0.040	ug/L			04/23/15 19:57	1
Styrene	ND		0.50	0.10	ug/L			04/23/15 19:57	1
Chlorobromomethane	ND		0.20	0.025	ug/L			04/23/15 19:57	1
Dichlorobromomethane	ND		0.20	0.025	ug/L			04/23/15 19:57	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 19:57	1
Benzene	ND		0.20	0.025	ug/L			04/23/15 19:57	1
Chloroethane	ND		0.50	0.075	ug/L			04/23/15 19:57	
trans-1,3-Dichloropropene	ND		0.20	0.025	ug/L			04/23/15 19:57	1
1,2,3-Trichlorobenzene	ND		0.50	0.10	ug/L			04/23/15 19:57	•
N-Propylbenzene	ND		0.20	0.025	ug/L			04/23/15 19:57	

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 19:57	1
2-Chlorotoluene	ND		0.50	0.070	ug/L			04/23/15 19:57	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			04/23/15 19:57	1
Carbon tetrachloride	0.098	J	0.20	0.025	ug/L			04/23/15 19:57	1
cis-1,3-Dichloropropene	ND		0.50	0.090	ug/L			04/23/15 19:57	1
Chlorobenzene	ND		0.20	0.025	ug/L			04/23/15 19:57	1
Vinyl chloride	ND		0.020	0.013	ug/L			04/23/15 19:57	1
sec-Butylbenzene	ND		0.50	0.070	ug/L			04/23/15 19:57	1
Dibromomethane	ND		0.20	0.025	ug/L			04/23/15 19:57	1
m-Xylene & p-Xylene	ND		0.50	0.050	ug/L			04/23/15 19:57	1
o-Xylene	ND		0.50	0.060	ug/L			04/23/15 19:57	1
1,2,4-Trichlorobenzene	ND		0.20	0.040	ug/L			04/23/15 19:57	1
Styrene	ND		0.50	0.10	ug/L			04/23/15 19:57	1
Chlorobromomethane	ND		0.20	0.025	ug/L			04/23/15 19:57	1
Dichlorobromomethane	ND		0.20	0.025				04/23/15 19:57	1
1,3-Dichlorobenzene	ND		0.30	0.050				04/23/15 19:57	1
Benzene	ND		0.20	0.025	_			04/23/15 19:57	1
Chloroethane	ND		0.50	0.075	_			04/23/15 19:57	1
trans-1,3-Dichloropropene	ND		0.20	0.025				04/23/15 19:57	
1,2,3-Trichlorobenzene	ND		0.50		ug/L			04/23/15 19:57	1
N-Propylbenzene	ND		0.20	0.025	-			04/23/15 19:57	1
4-Isopropyltoluene	ND		0.30	0.050				04/23/15 19:57	1
n-Butylbenzene	ND		0.50	0.080	•			04/23/15 19:57	1
1,1-Dichloropropene	ND		0.10	0.015	•			04/23/15 19:57	1
cis-1,2-Dichloroethene	ND		0.20	0.025				04/23/15 19:57	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.025	•			04/23/15 19:57	1
1,2,4-Trimethylbenzene	0.043	JB	0.20	0.030	ug/L			04/23/15 19:57	1
Toluene	ND		0.20	0.025	ug/L			04/23/15 19:57	1
Naphthalene	ND		0.50	0.10	ug/L			04/23/15 19:57	1
1,3,5-Trimethylbenzene	ND		0.50	0.083	_			04/23/15 19:57	1
1,3-Dichloropropane	ND		0.20	0.025				04/23/15 19:57	 1
Chloroform	0.15	J.	0.20	0.030	ug/L			04/23/15 19:57	1
4-Chlorotoluene	ND	•	0.30	0.050	-			04/23/15 19:57	1
Chlorodibromomethane	ND		0.20	0.025				04/23/15 19:57	
Dichlorodifluoromethane	ND		0.40	0.050				04/23/15 19:57	1
1,1,2-Trichloroethane	0.069	1	0.20	0.025	_			04/23/15 19:57	1
tert-Butylbenzene	ND		0.50	0.10				04/23/15 19:57	
Chloromethane	ND		0.30	0.050				04/23/15 19:57	1
1,1-Dichloroethene	80		0.10	0.018	-			04/23/15 19:57	1
Isopropylbenzene	ND		0.50	0.060				04/23/15 19:57	
1,2-Dichloroethane	ND		0.20	0.025	-			04/23/15 19:57	1
Tetrachloroethene	ND		0.50	0.070	_			04/23/15 19:57	1
1,1,1-Trichloroethane	44		0.20	0.025				04/23/15 19:57	' 1
2,2-Dichloropropane	ND		0.50	0.023	_			04/23/15 19:57	1
1,2-Dibromoethane	ND ND		0.30	0.000	_			04/23/15 19:57	1
Bromoform	ND		0.50	0.025					
1,2-Dibromo-3-Chloropropane	ND ND		2.0		ug/L ug/L			04/23/15 19:57	1
	ND ND	*			•			04/23/15 19:57	1
Trichlorofluoromethane	ND		0.50	0.025	ug/L ug/L			04/23/15 19:57	1

Client: URS Corporation

Project/Site: Crown, Cork & Seal

Date Received: 04/17/15 17:30

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

TestAmerica Job ID: 580-49123-1

SDG: OR

Client Sample ID: MW-4 Lab Sample ID: 580-49123-4

Date Collected: 04/16/15 14:30 Matrix:

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		0.20	0.035	ug/L			04/23/15 19:57	1
1,2-Dichloropropane	ND		0.20	0.025	ug/L			04/23/15 19:57	1
1,1,1,2-Tetrachloroethane	ND		0.20	0.025	ug/L			04/23/15 19:57	1
Ethylbenzene	ND		0.20	0.030	ug/L			04/23/15 19:57	1
trans-1,2-Dichloroethene	ND		0.20	0.025	ug/L			04/23/15 19:57	1
Hexachlorobutadiene	ND		0.50	0.075	ug/L			04/23/15 19:57	1
1,1-Dichloroethane	0.89		0.20	0.025	ug/L			04/23/15 19:57	1
Bromomethane	ND		1.0	0.16	ug/L			04/23/15 19:57	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 19:57	1
Methyl tert-butyl ether	ND		0.20	0.025	ug/L			04/23/15 19:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		75 - 120			_		04/23/15 19:57	1
Trifluorotoluene (Surr)	103		80 - 127					04/23/15 19:57	1
Toluene-d8 (Surr)	96		75 - 125					04/23/15 19:57	1
1,2-Dichloroethane-d4 (Surr)	106		70 - 128					04/23/15 19:57	1
Dibromofluoromethane (Surr)	106		85 ₋ 115					04/23/15 19:57	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	0.39	J B	0.50	0.11	ug/L			04/28/15 17:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		75 - 120			-		04/28/15 17:34	1
Trifluorotoluene (Surr)	101		80 - 127					04/28/15 17:34	1
Toluene-d8 (Surr)	100		75 - 125					04/28/15 17:34	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 128					04/28/15 17:34	1
Dibromofluoromethane (Surr)	101		85 - 115					04/28/15 17:34	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.019	0.0069	ug/L		04/22/15 19:16	04/25/15 17:25	1
Acenaphthylene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:25	1
Acenaphthene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:25	1
Fluorene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:25	1
Phenanthrene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:25	1
Anthracene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:25	1
Fluoranthene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:25	1
Pyrene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:25	1
Benzo[a]anthracene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:25	1
Chrysene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:25	1
Benzo[a]pyrene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:25	1
Indeno[1,2,3-cd]pyrene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:25	1
Dibenz(a,h)anthracene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:25	1
Benzo[g,h,i]perylene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:25	1
Benzo[b]fluoranthene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:25	1
Benzo[k]fluoranthene	ND		0.019	0.0058	ug/L		04/22/15 19:16	04/25/15 17:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	100		64 - 150				04/22/15 19:16	04/25/15 17:25	1

Client: URS Corporation

Project/Site: Crown, Cork & Seal

Date Received: 04/17/15 17:30

TestAmerica Job ID: 580-49123-1

SDG: OR

Client Sample ID: MW-4 Lab Sample ID: 580-49123-4 Date Collected: 04/16/15 14:30

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND	*	2.9	1.1	ug/L		04/22/15 19:16	04/25/15 23:27	1
Butyl benzyl phthalate	ND	٨	0.58	0.19	ug/L		04/22/15 19:16	04/25/15 23:27	1
Diethyl phthalate	ND		0.38	0.096	ug/L		04/22/15 19:16	04/25/15 23:27	1
Dimethyl phthalate	ND		0.38	0.096	ug/L		04/22/15 19:16	04/25/15 23:27	1
Di-n-butyl phthalate	ND		0.38	0.12	ug/L		04/22/15 19:16	04/25/15 23:27	1
Di-n-octyl phthalate	ND		0.38	0.17	ug/L		04/22/15 19:16	04/25/15 23:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	94		44 - 125				04/22/15 19:16	04/25/15 23:27	1
2-Fluorobiphenyl	83		50 - 120				04/22/15 19:16	04/25/15 23:27	1
2-Fluorophenol (Surr)	82		30 - 134				04/22/15 19:16	04/25/15 23:27	1
Nitrobenzene-d5 (Surr)	94		59 - 120				04/22/15 19:16	04/25/15 23:27	1
Phenol-d5 (Surr)	88		52 - 120				04/22/15 19:16	04/25/15 23:27	1
Terphenyl-d14 (Surr)	101		64 - 150				04/22/15 19:16	04/25/15 23:27	1
Method: NWTPH-Gx - Northw	est - Volatile Petro	oleum Prod	ucts (GC)						
Analyte		Qualifier	RL	MDI	Unit	D	Prepared	Analyzed	Dil Fac

Allalyte	Result	Qualifier	NL.	MIDL	Oilit	L	,	riepaieu	Allalyzeu	DII Fac
Gasoline	ND		0.050	0.027	mg/L				04/23/15 23:16	1
Surrogate	%Recovery	Qualifier	Limits					Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		50 - 150						04/23/15 23:16	1
Trifluorotoluene (Surr)	113		50 - 150						04/23/15 23:16	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.48	0.043	ug/L		04/22/15 15:24	04/25/15 01:26	1
PCB-1221	ND		0.48	0.059	ug/L		04/22/15 15:24	04/25/15 01:26	1
PCB-1232	ND		0.48	0.039	ug/L		04/22/15 15:24	04/25/15 01:26	1
PCB-1242	ND		0.48	0.039	ug/L		04/22/15 15:24	04/25/15 01:26	1
PCB-1248	ND		0.48	0.068	ug/L		04/22/15 15:24	04/25/15 01:26	1
PCB-1254	ND		0.48	0.042	ug/L		04/22/15 15:24	04/25/15 01:26	1
PCB-1260	ND		0.48	0.037	ug/L		04/22/15 15:24	04/25/15 01:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	85		38 - 121				04/22/15 15:24	04/25/15 01:26	1
Tetrachloro-m-xylene	85		26 - 124				04/22/15 15:24	04/25/15 01:26	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.10	0.014	mg/L		04/27/15 17:55	04/28/15 11:06	1
Motor Oil (>C24-C36)	0.017	J	0.24	0.0093	mg/L		04/27/15 17:55	04/28/15 11:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	76		50 - 150				04/27/15 17:55	04/28/15 11:06	

Method: 6020 - Metals (ICP/MS) - Total Recoverable											
Analyte	Result Qua	ıalifier RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac			
Arsenic	0.0035 J	0.0050	0.0014	mg/L		04/24/15 18:21	04/25/15 12:10	5			
Barium	0.019	0.0060	0.00027	mg/L		04/24/15 18:21	04/25/15 12:10	5			
Cadmium	ND	0.0020	0.00014	mg/L		04/24/15 18:21	04/25/15 12:10	5			
Chromium	0.0064	0.0020	0.00071	mg/L		04/24/15 18:21	04/25/15 12:10	5			

Client: URS Corporation

TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal SDG: OR

Client Sample ID: MW-4 Lab Sample ID: 580-49123-4

Date Collected: 04/16/15 14:30 Matrix: Water Date Received: 04/17/15 17:30

Method: 6020 - Metals (ICP/MS) - 1	otal Recover	able (Contin	nued)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00083	J	0.0020	0.00017	mg/L		04/24/15 18:21	04/25/15 12:10	5
Selenium	ND		0.0050	0.0015	mg/L		04/24/15 18:21	04/25/15 12:10	5
Silver	ND		0.0020	0.00015	mg/L		04/24/15 18:21	04/25/15 12:10	5
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		04/21/15 10:37	04/21/15 16:12	1

Client: URS Corporation

Client Sample ID: MW-1

Date Collected: 04/16/15 12:15

Date Received: 04/17/15 17:30

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Lab Sample ID: 580-49123-5

Matrix: Water

Method: 8260B - Volatile Orga	anic Compounds	(GC/MS)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 20:23	1
2-Chlorotoluene	ND		0.50	0.070	ug/L			04/23/15 20:23	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			04/23/15 20:23	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			04/23/15 20:23	1
cis-1,3-Dichloropropene	ND		0.50	0.090	ug/L			04/23/15 20:23	1
Chlorobenzene	ND		0.20	0.025	ug/L			04/23/15 20:23	1
Vinyl chloride	ND		0.020	0.013	ug/L			04/23/15 20:23	1
sec-Butylbenzene	ND		0.50	0.070	ug/L			04/23/15 20:23	1
Dibromomethane	ND		0.20	0.025	ug/L			04/23/15 20:23	1
m-Xylene & p-Xylene	ND		0.50	0.050	ua/L			04/23/15 20:23	1

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND	0.30	0.050	ug/L			04/23/15 20:23	1
2-Chlorotoluene	ND	0.50	0.070	ug/L			04/23/15 20:23	1
1,2,3-Trichloropropane	ND	0.20	0.050	ug/L			04/23/15 20:23	1
Carbon tetrachloride	ND	0.20	0.025	ug/L			04/23/15 20:23	1
cis-1,3-Dichloropropene	ND	0.50	0.090	ug/L			04/23/15 20:23	1
Chlorobenzene	ND	0.20	0.025	ug/L			04/23/15 20:23	1
Vinyl chloride	ND	0.020	0.013	ug/L			04/23/15 20:23	1
sec-Butylbenzene	ND	0.50	0.070	ug/L			04/23/15 20:23	1
Dibromomethane	ND	0.20	0.025	ug/L			04/23/15 20:23	1
m-Xylene & p-Xylene	ND	0.50	0.050	ug/L			04/23/15 20:23	1
o-Xylene	ND	0.50	0.060	ug/L			04/23/15 20:23	1
1,2,4-Trichlorobenzene	ND	0.20	0.040	ug/L			04/23/15 20:23	1
Styrene	ND	0.50	0.10	ug/L			04/23/15 20:23	1
Chlorobromomethane	ND	0.20	0.025	ug/L			04/23/15 20:23	1
Dichlorobromomethane	ND	0.20	0.025	ug/L			04/23/15 20:23	1
1,3-Dichlorobenzene	ND	0.30	0.050	ug/L			04/23/15 20:23	1
Benzene	ND	0.20	0.025	ug/L			04/23/15 20:23	1
Chloroethane	ND	0.50	0.075	ug/L			04/23/15 20:23	1
trans-1,3-Dichloropropene	ND	0.20	0.025	ug/L			04/23/15 20:23	1
1,2,3-Trichlorobenzene	ND	0.50	0.10	ug/L			04/23/15 20:23	1
N-Propylbenzene	ND	0.20	0.025				04/23/15 20:23	1
4-Isopropyltoluene	ND	0.30	0.050				04/23/15 20:23	1
n-Butylbenzene	ND	0.50	0.080				04/23/15 20:23	1
1,1-Dichloropropene	ND	0.10	0.015				04/23/15 20:23	1
cis-1,2-Dichloroethene	0.068 J	0.20	0.025	.			04/23/15 20:23	1
1,1,2,2-Tetrachloroethane	ND	0.20	0.025	-			04/23/15 20:23	1
1,2,4-Trimethylbenzene	0.038 JB	0.20	0.030				04/23/15 20:23	1
Toluene	ND	0.20	0.025				04/23/15 20:23	1
Naphthalene	ND	0.50	0.10				04/23/15 20:23	1
1,3,5-Trimethylbenzene	ND	0.50	0.083				04/23/15 20:23	1
1,3-Dichloropropane	ND	0.20	0.025	ug/L			04/23/15 20:23	1
Chloroform	0.26	0.20	0.030	-			04/23/15 20:23	1
4-Chlorotoluene	ND	0.30	0.050				04/23/15 20:23	1
Chlorodibromomethane	ND	0.20	0.025				04/23/15 20:23	1
Dichlorodifluoromethane	ND	0.40	0.050	-			04/23/15 20:23	1
1,1,2-Trichloroethane	ND	0.20	0.025	-			04/23/15 20:23	1
tert-Butylbenzene	ND	0.50	0.10				04/23/15 20:23	1
Chloromethane	ND	0.30	0.050				04/23/15 20:23	1
1,1-Dichloroethene	2.2	0.10	0.018	-			04/23/15 20:23	1
Isopropylbenzene	ND	0.50	0.060				04/23/15 20:23	1
1,2-Dichloroethane	ND	0.20	0.025				04/23/15 20:23	1
Tetrachloroethene	0.21 J	0.50	0.070				04/23/15 20:23	1
1,1,1-Trichloroethane	1.6	0.20	0.025				04/23/15 20:23	1
2,2-Dichloropropane	ND	0.50	0.060				04/23/15 20:23	1
1,2-Dibromoethane	ND	0.10	0.025	•			04/23/15 20:23	1
Bromoform	ND	0.50	0.080				04/23/15 20:23	1
1,2-Dibromo-3-Chloropropane	ND	2.0	0.44	-			04/23/15 20:23	. 1
Trichlorofluoromethane	ND *	0.50	0.025	-			04/23/15 20:23	1
			0.025					

Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Client Sample ID: MW-1 Lab Sample ID: 580-49123-5

Matrix: Water

Date Collected: 04/16/15 12:15 Date Received: 04/17/15 17:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		0.20	0.035	ug/L			04/23/15 20:23	1
1,2-Dichloropropane	ND		0.20	0.025	ug/L			04/23/15 20:23	1
1,1,1,2-Tetrachloroethane	ND		0.20	0.025	ug/L			04/23/15 20:23	1
Ethylbenzene	ND		0.20	0.030	ug/L			04/23/15 20:23	1
trans-1,2-Dichloroethene	ND		0.20	0.025	ug/L			04/23/15 20:23	1
Hexachlorobutadiene	ND		0.50	0.075	ug/L			04/23/15 20:23	1
1,1-Dichloroethane	1.7		0.20	0.025	ug/L			04/23/15 20:23	1
Bromomethane	ND		1.0	0.16	ug/L			04/23/15 20:23	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 20:23	1
Methyl tert-butyl ether	ND		0.20	0.025	ug/L			04/23/15 20:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	106		75 - 120			-		04/23/15 20:23	1
Trifluorotoluene (Surr)	103		80 - 127					04/23/15 20:23	1
Toluene-d8 (Surr)	97		75 - 125					04/23/15 20:23	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 128					04/23/15 20:23	1
Dibromofluoromethane (Surr)	108		85 ₋ 115					04/23/15 20:23	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	0.48	J B	0.50	0.11	ug/L			04/28/15 18:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		75 - 120			-		04/28/15 18:01	1
Trifluorotoluene (Surr)	98		80 - 127					04/28/15 18:01	1
Toluene-d8 (Surr)	99		75 - 125					04/28/15 18:01	1
1,2-Dichloroethane-d4 (Surr)	106		70 - 128					04/28/15 18:01	1
Dibromofluoromethane (Surr)	102		85 - 115					04/28/15 18:01	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.045		0.019	0.0068	ug/L		04/22/15 19:16	04/25/15 17:47	1
Acenaphthylene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 17:47	1
Acenaphthene	0.031		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 17:47	1
Fluorene	0.048		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 17:47	1
Phenanthrene	0.31		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 17:47	1
Anthracene	0.0095	J	0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 17:47	1
Fluoranthene	0.30		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 17:47	1
Pyrene	0.16		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 17:47	1
Benzo[a]anthracene	0.0093	J	0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 17:47	1
Chrysene	0.016	J	0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 17:47	1
Benzo[a]pyrene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 17:47	1
Indeno[1,2,3-cd]pyrene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 17:47	1
Dibenz(a,h)anthracene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 17:47	1
Benzo[g,h,i]perylene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 17:47	1
Benzo[b]fluoranthene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 17:47	1
Benzo[k]fluoranthene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 17:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	97		64 - 150				04/22/15 19:16	04/25/15 17:47	1

TestAmerica Seattle

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Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Client Sample ID: MW-1 Lab Sample ID: 580-49123-5

Matrix: Water

Date Collected: 04/16/15 12:15 Date Received: 04/17/15 17:30

	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Bis(2-ethylhexyl) phthalate	ND	*	2.8	1.1	ug/L		04/22/15 19:16	04/25/15 23:52	
Butyl benzyl phthalate	ND	٨	0.57	0.19	ug/L		04/22/15 19:16	04/25/15 23:52	
Diethyl phthalate	ND		0.38	0.095	ug/L		04/22/15 19:16	04/25/15 23:52	
Dimethyl phthalate	ND		0.38	0.095	ug/L		04/22/15 19:16	04/25/15 23:52	
Di-n-butyl phthalate	ND		0.38	0.12	ug/L		04/22/15 19:16	04/25/15 23:52	
Di-n-octyl phthalate	ND		0.38	0.17	ug/L		04/22/15 19:16	04/25/15 23:52	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
2,4,6-Tribromophenol (Surr)	106		44 - 125				04/22/15 19:16	04/25/15 23:52	
2-Fluorobiphenyl	84		50 ₋ 120				04/22/15 19:16	04/25/15 23:52	
2-Fluorophenol (Surr)	78		30 - 134				04/22/15 19:16	04/25/15 23:52	
Nitrobenzene-d5 (Surr)	95		59 - 120				04/22/15 19:16	04/25/15 23:52	
Phenol-d5 (Surr)	86		52 ₋ 120				04/22/15 19:16	04/25/15 23:52	
Terphenyl-d14 (Surr)	103		64 - 150				04/22/15 19:16	04/25/15 23:52	
Method: NWTPH-Gx - Northwe	est - Volatile Petro	oleum Prod	ucts (GC)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Gasoline	ND		0.050	0.027	mg/L			04/23/15 23:48	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	97		50 - 150					04/23/15 23:48	
Trifluorotoluene (Surr)	113		50 - 150					04/23/15 23:48	
Analyte		Qualifier	RL _	MDL	Unit	D	Prepared	Analyzed	Dil Fa
PCB-1016	ND		0.47	0.043	ug/L		04/22/15 15:24	04/25/15 01:43	
	ND ND		0.47 0.47	0.043 0.059	ug/L ug/L		04/22/15 15:24 04/22/15 15:24	04/25/15 01:43 04/25/15 01:43	
PCB-1221					-				
PCB-1221 PCB-1232	ND		0.47	0.059	ug/L		04/22/15 15:24	04/25/15 01:43	
PCB-1221 PCB-1232 PCB-1242	ND ND		0.47 0.47	0.059	ug/L ug/L ug/L		04/22/15 15:24 04/22/15 15:24	04/25/15 01:43 04/25/15 01:43	
PCB-1221 PCB-1232 PCB-1242 PCB-1248	ND ND ND		0.47 0.47 0.47	0.059 0.039 0.039	ug/L ug/L ug/L ug/L		04/22/15 15:24 04/22/15 15:24 04/22/15 15:24	04/25/15 01:43 04/25/15 01:43 04/25/15 01:43	
PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254	ND ND ND		0.47 0.47 0.47 0.47	0.059 0.039 0.039 0.067	ug/L ug/L ug/L ug/L ug/L		04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24	04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43	
PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260	ND ND ND ND	Qualifier	0.47 0.47 0.47 0.47 0.47	0.059 0.039 0.039 0.067 0.042	ug/L ug/L ug/L ug/L ug/L		04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24	04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43	
PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260	ND ND ND ND ND	Qualifier	0.47 0.47 0.47 0.47 0.47 0.47	0.059 0.039 0.039 0.067 0.042	ug/L ug/L ug/L ug/L ug/L		04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24	04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43	Dil Fa
PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260 Surrogate DCB Decachlorobiphenyl	ND ND ND ND ND	Qualifier	0.47 0.47 0.47 0.47 0.47 0.47	0.059 0.039 0.039 0.067 0.042	ug/L ug/L ug/L ug/L ug/L		04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 Prepared	04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 Analyzed	Dil Fa
PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260 Surrogate DCB Decachlorobiphenyl Tetrachloro-m-xylene	ND ND ND ND ND ND PRecovery 92 86		0.47 0.47 0.47 0.47 0.47 0.47 Limits 38 - 121 26 - 124	0.059 0.039 0.039 0.067 0.042 0.037	ug/L ug/L ug/L ug/L ug/L		04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 Prepared 04/22/15 15:24	04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 Analyzed 04/25/15 01:43	Dil Fa
PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260 Surrogate DCB Decachlorobiphenyl Tetrachloro-m-xylene Method: NWTPH-Dx - Northwe	ND ND ND ND ND ND SEE SEMI-Volatile		0.47 0.47 0.47 0.47 0.47 0.47 Limits 38 - 121 26 - 124	0.059 0.039 0.039 0.067 0.042 0.037	ug/L ug/L ug/L ug/L ug/L	D	04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 Prepared 04/22/15 15:24	04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 Analyzed 04/25/15 01:43	Dil Fa
PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260 Surrogate DCB Decachlorobiphenyl Tetrachloro-m-xylene Method: NWTPH-Dx - Northwe	ND ND ND ND ND ND SEE SEMI-Volatile	Petroleum Qualifier	0.47 0.47 0.47 0.47 0.47 0.47 	0.059 0.039 0.039 0.067 0.042 0.037	ug/L ug/L ug/L ug/L ug/L ug/L	D	04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 Prepared 04/22/15 15:24 04/22/15 15:24	04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 Analyzed 04/25/15 01:43	Dil Fa
PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260 Surrogate DCB Decachlorobiphenyl Tetrachloro-m-xylene Method: NWTPH-Dx - Northweanalyte #2 Diesel (C10-C24)	ND ND ND ND ND Section 1.00 ND	Petroleum Qualifier J	0.47 0.47 0.47 0.47 0.47 0.47 	0.059 0.039 0.039 0.067 0.042 0.037	ug/L ug/L ug/L ug/L ug/L ug/L ug/L	D	04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 Prepared 04/22/15 15:24 04/22/15 15:24 Prepared	04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 Analyzed 04/25/15 01:43 04/25/15 01:43	
PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260 Surrogate DCB Decachlorobiphenyl Tetrachloro-m-xylene Method: NWTPH-Dx - Northwee Analyte #2 Diesel (C10-C24) Motor Oil (>C24-C36)	ND ND ND ND ND ND ND Section	Petroleum Qualifier J	0.47 0.47 0.47 0.47 0.47 0.47 1.47 26 - 124 1.49 Products (GC) RL 0.10	0.059 0.039 0.039 0.067 0.042 0.037	ug/L ug/L ug/L ug/L ug/L ug/L ug/L	D	04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 Prepared 04/22/15 15:24 Prepared 04/22/15 15:24 O4/22/15 15:25	04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 Analyzed 04/25/15 01:43 04/25/15 01:43 04/25/15 11:24	Dil Fa
PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260 Surrogate DCB Decachlorobiphenyl Tetrachloro-m-xylene Method: NWTPH-Dx - Northwee Analyte #2 Diesel (C10-C24) Motor Oil (>C24-C36) Surrogate	ND ND ND ND ND ND ND Sest - Semi-Volatile Result 0.038 0.024	Petroleum Qualifier J	0.47 0.47 0.47 0.47 0.47 0.47 1.47 26 - 124 1.49 Products (GC) RL 0.10 0.24	0.059 0.039 0.039 0.067 0.042 0.037	ug/L ug/L ug/L ug/L ug/L ug/L ug/L	<u>D</u>	04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 Prepared 04/22/15 15:24 Prepared 04/22/15 15:24 04/22/15 15:25 04/27/15 17:55	04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 Analyzed 04/25/15 01:43 04/25/15 01:43 04/25/15 11:24 04/28/15 11:24	_ Dil Fa
PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260 Surrogate DCB Decachlorobiphenyl Tetrachloro-m-xylene Method: NWTPH-Dx - Northwee Analyte #2 Diesel (C10-C24) Motor Oil (>C24-C36) Surrogate D-Terphenyl	ND ND ND ND ND ND ND ND	Petroleum Qualifier J J	0.47 0.47 0.47 0.47 0.47 0.47	0.059 0.039 0.067 0.042 0.037 MDL 0.014 0.0093	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	D	04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 Prepared 04/22/15 15:24 Prepared 04/22/15 15:24 Prepared 04/22/15 15:55 04/27/15 17:55 Prepared	04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 Analyzed 04/25/15 01:43 Analyzed 04/25/15 11:24 04/28/15 11:24 Analyzed	Dil Fa
PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260 Surrogate DCB Decachlorobiphenyl Tetrachloro-m-xylene Method: NWTPH-Dx - Northwee Analyte #2 Diesel (C10-C24) Motor Oil (>C24-C36) Surrogate p-Terphenyl Method: 6020 - Metals (ICP/MS	ND ND ND ND ND ND ND ND	Petroleum Qualifier J Qualifier able Qualifier	0.47 0.47 0.47 0.47 0.47 0.47 0.47 1.47 26 - 124 1.41 27 28 29 20 20 21 21 21 21 22 21 22 21 22 21 22 22 23 24 24 25 26 27 27 28 28 28 28 28 28 28 28	0.059 0.039 0.067 0.042 0.037 MDL 0.014 0.0093	ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	D	04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 Prepared 04/22/15 15:24 Prepared 04/22/15 15:25 Prepared 04/27/15 17:55 Prepared 04/27/15 17:55	04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 Analyzed 04/25/15 01:43 Analyzed 04/25/15 11:24 04/28/15 11:24 Analyzed 04/28/15 11:24 Analyzed	Dil Fa
PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260 Surrogate DCB Decachlorobiphenyl Tetrachloro-m-xylene Method: NWTPH-Dx - Northwee Analyte #2 Diesel (C10-C24) Motor Oil (>C24-C36) Surrogate D-Terphenyl Method: 6020 - Metals (ICP/MSAnalyte	ND ND ND ND ND ND ND ND	Petroleum Qualifier J Qualifier able Qualifier	0.47 0.47 0.47 0.47 0.47 0.47	0.059 0.039 0.067 0.042 0.037 MDL 0.0014 0.0014	ug/L ug/L ug/L ug/L ug/L ug/L ug/L Unit mg/L mg/L		04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 Prepared 04/22/15 15:24 Prepared 04/22/15 15:25 Prepared 04/27/15 17:55 Prepared 04/27/15 17:55	04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 Analyzed 04/25/15 01:43 Analyzed 04/25/15 11:24 04/28/15 11:24 Analyzed 04/28/15 11:24	Dil Fa Dil Fa
PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260 Surrogate PCB Decachlorobiphenyl Tetrachloro-m-xylene Method: NWTPH-Dx - Northwee Analyte #2 Diesel (C10-C24) Motor Oil (>C24-C36) Surrogate P-Terphenyl Method: 6020 - Metals (ICP/MSAnalyte Arsenic	ND ND ND ND ND ND ND ND	Petroleum Qualifier J Qualifier able Qualifier	0.47 0.47 0.47 0.47 0.47 0.47 0.47 1.47 26 - 124 1.41 27 28 29 20 20 21 21 21 21 22 21 22 21 22 21 22 22 23 24 24 25 26 27 27 28 28 28 28 28 28 28 28	0.059 0.039 0.067 0.042 0.037 MDL 0.014 0.0093	ug/L ug/L ug/L ug/L ug/L ug/L ug/L Unit mg/L mg/L		04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 Prepared 04/22/15 15:24 Prepared 04/22/15 15:25 Prepared 04/27/15 17:55 Prepared 04/27/15 17:55	04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 Analyzed 04/25/15 01:43 Analyzed 04/25/15 11:24 04/28/15 11:24 Analyzed 04/28/15 11:24 Analyzed	Dil Fa
PCB-1016 PCB-1221 PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260 Surrogate DCB Decachlorobiphenyl Tetrachloro-m-xylene Method: NWTPH-Dx - Northwee Analyte #2 Diesel (C10-C24) Motor Oil (>C24-C36) Surrogate o-Terphenyl Method: 6020 - Metals (ICP/MSAnalyte Arsenic Barium Cadmium	ND ND ND ND ND ND ND ND	Petroleum Qualifier J Qualifier able Qualifier	0.47 0.47 0.47 0.47 0.47 0.47 0.47 Limits 38 - 121 26 - 124 Products (GC RL 0.10 0.24 Limits 50 - 150 RL 0.0050	0.059 0.039 0.067 0.042 0.037 MDL 0.0014 0.0014	ug/L ug/L ug/L ug/L ug/L ug/L ug/L Unit mg/L mg/L mg/L mg/L mg/L mg/L		04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 04/22/15 15:24 Prepared 04/22/15 15:24 Prepared 04/22/15 15:54 Prepared 04/27/15 17:55 Prepared 04/27/15 17:55 Prepared 04/27/15 17:55	04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 04/25/15 01:43 Analyzed 04/25/15 01:43 Analyzed 04/25/15 11:24 04/28/15 11:24 Analyzed 04/28/15 11:24 Analyzed 04/28/15 11:24	Dil Fa

Client: URS Corporation

TestAmerica Job ID: 580-49123-1

Project/Site: Crown, Cork & Seal SDG: OR

Client Sample ID: MW-1 Lab Sample ID: 580-49123-5

Date Collected: 04/16/15 12:15

Date Received: 04/17/15 17:30

Matrix: Water

Analyte		able (Conting Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00025	J	0.0020	0.00017	mg/L		04/24/15 18:21	04/25/15 12:14	5
Selenium	ND		0.0050	0.0015	mg/L		04/24/15 18:21	04/25/15 12:14	5
Silver -	ND		0.0020	0.00015	mg/L		04/24/15 18:21	04/25/15 12:14	5
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L		04/21/15 10:37	04/21/15 16:14	1

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Client: URS Corporation

Date Received: 04/17/15 17:30

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1 SDG: OR

Client Sample ID: MW-2 Lab Sample ID: 580-49123-6 Date Collected: 04/16/15 10:30 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
1,2-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 20:49	
2-Chlorotoluene	ND		0.50	0.070	ug/L			04/23/15 20:49	
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			04/23/15 20:49	
Carbon tetrachloride	ND		0.20	0.025	ug/L			04/23/15 20:49	
cis-1,3-Dichloropropene	ND		0.50	0.090	ug/L			04/23/15 20:49	
Chlorobenzene	ND		0.20	0.025	ug/L			04/23/15 20:49	
Vinyl chloride	ND		0.020	0.013	ug/L			04/23/15 20:49	
sec-Butylbenzene	ND		0.50	0.070	ug/L			04/23/15 20:49	
Dibromomethane	ND		0.20	0.025	ug/L			04/23/15 20:49	
m-Xylene & p-Xylene	ND		0.50	0.050	ug/L			04/23/15 20:49	
o-Xylene	ND		0.50	0.060	ug/L			04/23/15 20:49	
1,2,4-Trichlorobenzene	ND		0.20	0.040				04/23/15 20:49	
Styrene	ND		0.50		ug/L			04/23/15 20:49	
Chlorobromomethane	ND		0.20	0.025	-			04/23/15 20:49	
Dichlorobromomethane	ND		0.20	0.025	-			04/23/15 20:49	
1,3-Dichlorobenzene	ND		0.30	0.050				04/23/15 20:49	
Benzene	ND		0.20	0.025				04/23/15 20:49	
Chloroethane	ND		0.50	0.075				04/23/15 20:49	
trans-1,3-Dichloropropene	ND		0.20	0.025				04/23/15 20:49	
1,2,3-Trichlorobenzene	ND		0.50	0.10				04/23/15 20:49	
N-Propylbenzene	ND		0.20	0.025				04/23/15 20:49	
4-Isopropyltoluene	ND		0.30	0.050	.			04/23/15 20:49	
n-Butylbenzene	ND		0.50	0.080				04/23/15 20:49	
1,1-Dichloropropene	ND		0.10	0.015				04/23/15 20:49	
cis-1,2-Dichloroethene	0.063		0.20	0.025				04/23/15 20:49	
1,1,2,2-Tetrachloroethane	ND	•	0.20	0.025	_			04/23/15 20:49	
1,2,4-Trimethylbenzene	0.042	I R	0.20	0.030	-			04/23/15 20:49	
Toluene	ND		0.20	0.025				04/23/15 20:49	
Naphthalene	ND		0.50	0.10				04/23/15 20:49	
1,3,5-Trimethylbenzene	ND.		0.50	0.083				04/23/15 20:49	
1,3-Dichloropropane	ND		0.20	0.025				04/23/15 20:49	
Chloroform	0.24		0.20	0.023				04/23/15 20:49	
4-Chlorotoluene	ND		0.30	0.050				04/23/15 20:49	
Chlorodibromomethane	ND		0.30	0.030				04/23/15 20:49	
Dichlorodifluoromethane	ND		0.40	0.023				04/23/15 20:49	
			0.40	0.030				04/23/15 20:49	
1,1,2-Trichloroethane	0.087 ND	J							
tert-Butylbenzene			0.50		ug/L			04/23/15 20:49	
Chloromethane	ND		0.30	0.050				04/23/15 20:49	
1,1-Dichloroethene	0.99		0.10	0.018	_			04/23/15 20:49	
Isopropylbenzene	ND		0.50	0.060				04/23/15 20:49	
1,2-Dichloroethane	ND		0.20	0.025	_			04/23/15 20:49	
Tetrachloroethene	0.54		0.50	0.070				04/23/15 20:49	
1,1,1-Trichloroethane	1.9		0.20	0.025	_			04/23/15 20:49	
2,2-Dichloropropane	ND		0.50	0.060	-			04/23/15 20:49	
1,2-Dibromoethane	ND		0.10	0.025	.			04/23/15 20:49	
Bromoform	ND		0.50	0.080	_			04/23/15 20:49	
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/23/15 20:49	
Trichlorofluoromethane	ND	*	0.50	0.025	ug/L			04/23/15 20:49	
Trichloroethene	0.064	J	0.20	0.025	ug/L			04/23/15 20:49	

Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Client Sample ID: MW-2

Date Collected: 04/16/15 10:30 Date Received: 04/17/15 17:30

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Lab Sample ID: 580-49123-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		0.20	0.035	ug/L			04/23/15 20:49	1
1,2-Dichloropropane	ND		0.20	0.025	ug/L			04/23/15 20:49	1
1,1,1,2-Tetrachloroethane	ND		0.20	0.025	ug/L			04/23/15 20:49	1
Ethylbenzene	ND		0.20	0.030	ug/L			04/23/15 20:49	1
trans-1,2-Dichloroethene	ND		0.20	0.025	ug/L			04/23/15 20:49	1
Hexachlorobutadiene	ND		0.50	0.075	ug/L			04/23/15 20:49	1
1,1-Dichloroethane	0.83		0.20	0.025	ug/L			04/23/15 20:49	1
Bromomethane	ND		1.0	0.16	ug/L			04/23/15 20:49	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 20:49	1
Methyl tert-butyl ether	ND		0.20	0.025	ug/L			04/23/15 20:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	104		75 - 120			_		04/23/15 20:49	1
Trifluorotoluene (Surr)	106		80 - 127					04/23/15 20:49	1
Toluene-d8 (Surr)	96		75 - 125					04/23/15 20:49	1
1,2-Dichloroethane-d4 (Surr)	108		70 - 128					04/23/15 20:49	1
Dibromofluoromethane (Surr)	106		85 ₋ 115					04/23/15 20:49	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	0.47	JB	0.50	0.11	ug/L			04/28/15 15:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		75 - 120			-		04/28/15 15:48	1
Trifluorotoluene (Surr)	99		80 - 127					04/28/15 15:48	1
Toluene-d8 (Surr)	101		75 - 125					04/28/15 15:48	1
1,2-Dichloroethane-d4 (Surr)	105		70 - 128					04/28/15 15:48	1
Dibromofluoromethane (Surr)	102		85 - 115					04/28/15 15:48	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.019	0.0069	ug/L		04/22/15 19:16	04/25/15 18:08	1
Acenaphthylene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 18:08	1
Acenaphthene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 18:08	1
Fluorene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 18:08	1
Phenanthrene	0.012	J	0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 18:08	1
Anthracene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 18:08	1
Fluoranthene	0.023		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 18:08	1
Pyrene	0.014	J	0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 18:08	1
Benzo[a]anthracene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 18:08	1
Chrysene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 18:08	1
Benzo[a]pyrene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 18:08	1
Indeno[1,2,3-cd]pyrene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 18:08	1
Dibenz(a,h)anthracene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 18:08	1
Benzo[g,h,i]perylene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 18:08	1
Benzo[b]fluoranthene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 18:08	1
Benzo[k]fluoranthene	ND		0.019	0.0057	ug/L		04/22/15 19:16	04/25/15 18:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	105		64 - 150				04/22/15 19:16	04/25/15 18:08	1

Client: URS Corporation

Project/Site: Crown, Cork & Seal

Client Sample ID: MW-2 Date Collected: 04/16/15 10:30 Date Received: 04/17/15 17:30 TestAmerica Job ID: 580-49123-1

SDG: OR

Lab Sample ID: 580-49123-6

oumpio	 000			
	Mat	rix:	Water	

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	6.4	*	2.9	1.1	ug/L		04/22/15 19:16	04/26/15 00:18	1
Butyl benzyl phthalate	ND	٨	0.57	0.19	ug/L		04/22/15 19:16	04/26/15 00:18	1
Diethyl phthalate	ND		0.38	0.095	ug/L		04/22/15 19:16	04/26/15 00:18	1
Dimethyl phthalate	ND		0.38	0.095	ug/L		04/22/15 19:16	04/26/15 00:18	1
Di-n-butyl phthalate	ND		0.38	0.12	ug/L		04/22/15 19:16	04/26/15 00:18	1
Di-n-octyl phthalate	ND		0.38	0.17	ug/L		04/22/15 19:16	04/26/15 00:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	99		44 - 125				04/22/15 19:16	04/26/15 00:18	1
2-Fluorobiphenyl	83		50 - 120				04/22/15 19:16	04/26/15 00:18	1
2-Fluorophenol (Surr)	74		30 - 134				04/22/15 19:16	04/26/15 00:18	1
Nitrobenzene-d5 (Surr)	89		59 - 120				04/22/15 19:16	04/26/15 00:18	1
Phenol-d5 (Surr)	79		52 - 120				04/22/15 19:16	04/26/15 00:18	1
Terphenyl-d14 (Surr)	104		64 - 150				04/22/15 19:16	04/26/15 00:18	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND	H	2.9	1.1	ug/L		04/27/15 12:44	04/30/15 10:51	1
Butyl benzyl phthalate	ND	Н	0.57	0.19	ug/L		04/27/15 12:44	04/30/15 10:51	1
Diethyl phthalate	ND	Н	0.38	0.095	ug/L		04/27/15 12:44	04/30/15 10:51	1
Dimethyl phthalate	ND	Н	0.38	0.095	ug/L		04/27/15 12:44	04/30/15 10:51	1
Di-n-butyl phthalate	ND	Н	0.38	0.12	ug/L		04/27/15 12:44	04/30/15 10:51	1
Di-n-octyl phthalate	ND	Н	0.38	0.17	ug/L		04/27/15 12:44	04/30/15 10:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	92		44 - 125	04/27/15 12:44	04/30/15 10:51	1
2-Fluorobiphenyl	81		50 - 120	04/27/15 12:44	04/30/15 10:51	1
2-Fluorophenol (Surr)	83		30 - 134	04/27/15 12:44	04/30/15 10:51	1
Nitrobenzene-d5 (Surr)	93		59 - 120	04/27/15 12:44	04/30/15 10:51	1
Phenol-d5 (Surr)	90		52 - 120	04/27/15 12:44	04/30/15 10:51	1
Terphenyl-d14 (Surr)	98		64 - 150	04/27/15 12:44	04/30/15 10:51	1

Method: NWTPH-GX - Northwes	t - volatile Petro	oleum Prod	ucts (GC)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Gasoline	ND		0.050	0.027	mg/L			04/24/15 00:19	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene (Surr)	97		50 - 150			-		04/24/15 00:19	1	
Trifluorotoluene (Surr)	114		50 - 150					04/24/15 00:19	1	

Analyte	Result Qu	ıalifier RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND ND	0.48	0.043	ug/L		04/22/15 15:24	04/25/15 01:59	1
PCB-1221	ND	0.48	0.059	ug/L		04/22/15 15:24	04/25/15 01:59	1
PCB-1232	ND	0.48	0.039	ug/L		04/22/15 15:24	04/25/15 01:59	1
PCB-1242	ND	0.48	0.039	ug/L		04/22/15 15:24	04/25/15 01:59	1
PCB-1248	ND	0.48	0.068	ug/L		04/22/15 15:24	04/25/15 01:59	1
PCB-1254	ND	0.48	0.042	ug/L		04/22/15 15:24	04/25/15 01:59	1
PCB-1260	ND	0.48	0.037	ug/L		04/22/15 15:24	04/25/15 01:59	1

TestAmerica Seattle

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Client: URS Corporation

Project/Site: Crown, Cork & Seal

Date Received: 04/17/15 17:30

TestAmerica Job ID: 580-49123-1

SDG: OR

Client Sample ID: MW-2 Lab Sample ID: 580-49123-6 Date Collected: 04/16/15 10:30

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	79		38 - 121	04/22/15 15:24	04/25/15 01:59	1
Tetrachloro-m-xylene	79		26 - 124	04/22/15 15:24	04/25/15 01:59	1

Method: NWTPH-Dx - North		Petroleum Qualifier	•) MDL	Unit	D	Dranarad	Anglyzad	Dil Fac
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
#2 Diesel (C10-C24)	ND		0.10	0.014	mg/L		04/27/15 17:55	04/28/15 11:43	1
Motor Oil (>C24-C36)	0.023	J	0.24	0.0093	mg/L		04/27/15 17:55	04/28/15 11:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	62		50 - 150				04/27/15 17:55	04/28/15 11:43	

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0018	J	0.0050	0.0014	mg/L		04/24/15 18:21	04/25/15 12:18	5
Barium	0.028		0.0060	0.00027	mg/L		04/24/15 18:21	04/25/15 12:18	5
Cadmium	ND		0.0020	0.00014	mg/L		04/24/15 18:21	04/25/15 12:18	5
Chromium	0.0029		0.0020	0.00071	mg/L		04/24/15 18:21	04/25/15 12:18	5
Lead	ND		0.0020	0.00017	mg/L		04/24/15 18:21	04/25/15 12:18	5
Selenium	ND		0.0050	0.0015	mg/L		04/24/15 18:21	04/25/15 12:18	5
Silver	ND		0.0020	0.00015	mg/L		04/24/15 18:21	04/25/15 12:18	5

Method: 7470A - Mercury (CVAA)								
Analyte	Result	Qualifier	RL	MDL	Unit	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000041	mg/L	04/21/15 10:37	04/21/15 16:17	1

Client: URS Corporation

Client Sample ID: OF-2 Overflow Catch Basin

TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal

Lab Sample ID: 580-49123-7

SDG: OR

Date Collected: 04/17/15 13:15 Date Received: 04/17/15 17:30								Matri Percent Soli	ix: Solid ids: 76.6	
Method: 8260C - Volatile Orga	•	by GC/MS Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Dichlorodifluoromethane	ND		0.051		mg/Kg	<u></u>	04/22/15 12:15	04/27/15 14:52	1	
Chloromethane	ND		0.13	0.013	mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	1	
Vinyl chloride	ND		0.020	0.0091	mg/Kg	₩	04/22/15 12:15	04/27/15 14:52	1	
Bromomethane	ND		0.18	0.017	ma/Ka		04/22/15 12:15	04/27/15 14:52	1	

Method: 8260C - Volatile Organi ^{Analyte}	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Dichlorodifluoromethane	ND		0.051	0.0083	mg/Kg		04/22/15 12:15	04/27/15 14:52	
Chloromethane	ND		0.13	0.013	mg/Kg	₩	04/22/15 12:15	04/27/15 14:52	
Vinyl chloride	ND		0.020	0.0091	mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	
Bromomethane	ND		0.18	0.017	mg/Kg		04/22/15 12:15	04/27/15 14:52	
Chloroethane	ND		0.51	0.020	mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	
Trichlorofluoromethane	ND		0.051	0.0075	mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	
1,1-Dichloroethene	ND		0.026	0.0063	mg/Kg	φ.	04/22/15 12:15	04/27/15 14:52	
Carbon disulfide	ND		0.051	0.0056		₽	04/22/15 12:15	04/27/15 14:52	
Acetone	ND		1.0		mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	
Methylene Chloride	ND		0.032		mg/Kg		04/22/15 12:15	04/27/15 14:52	
Methyl tert-butyl ether	ND		0.051	0.0077		₽	04/22/15 12:15	04/27/15 14:52	
trans-1,2-Dichloroethene	ND		0.051		mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	
1,1-Dichloroethane	ND		0.051	0.0054			04/22/15 12:15	04/27/15 14:52	
2,2-Dichloropropane	ND		0.051	0.0061	mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	
cis-1,2-Dichloroethene	ND		0.051	0.0063		₩	04/22/15 12:15	04/27/15 14:52	
2-Butanone (MEK)	ND		0.51		mg/Kg	 Ф	04/22/15 12:15	04/27/15 14:52	
Bromochloromethane	ND		0.051		mg/Kg	₩	04/22/15 12:15	04/27/15 14:52	
Chloroform	ND		0.051	0.0054		₩	04/22/15 12:15	04/27/15 14:52	
1,1,1-Trichloroethane	ND		0.051		mg/Kg		04/22/15 12:15	04/27/15 14:52	
Carbon tetrachloride	ND		0.026		mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	
1,1-Dichloropropene	ND.		0.020		mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	
Benzene	ND		0.020		mg/Kg	· · · · · · · · · · · · · · · · · · ·	04/22/15 12:15	04/27/15 14:52	
1,2-Dichloroethane	ND ND		0.020		mg/Kg	₩	04/22/15 12:15	04/27/15 14:52	
Trichloroethene	ND ND		0.020	0.0042			04/22/15 12:15	04/27/15 14:52	
	ND		0.031	0.0040			04/22/15 12:15	04/27/15 14:52	
1,2-Dichloropropane						₩			
Dibromomethane	ND ND		0.077		mg/Kg	₩	04/22/15 12:15	04/27/15 14:52	
Bromodichloromethane			0.051	0.0018			04/22/15 12:15	04/27/15 14:52	
cis-1,3-Dichloropropene	ND		0.020	0.0023		₩	04/22/15 12:15	04/27/15 14:52	
4-Methyl-2-pentanone (MIBK)	ND		0.26		mg/Kg	₩	04/22/15 12:15	04/27/15 14:52	
Toluene	ND		0.051	0.0033			04/22/15 12:15	04/27/15 14:52	
rans-1,3-Dichloropropene	ND		0.051	0.0089		*	04/22/15 12:15	04/27/15 14:52	
1,1,2-Trichloroethane	ND		0.015	0.0036		*	04/22/15 12:15	04/27/15 14:52	
Tetrachloroethene	ND		0.026	0.0068		· · · · · ·	04/22/15 12:15	04/27/15 14:52	
1,3-Dichloropropane	ND		0.051	0.0070		₩	04/22/15 12:15	04/27/15 14:52	
2-Hexanone	ND		0.26		mg/Kg	*	04/22/15 12:15	04/27/15 14:52	
Dibromochloromethane	ND		0.026	0.0036			04/22/15 12:15	04/27/15 14:52	
1,2-Dibromoethane	ND		0.020	0.0043		**	04/22/15 12:15	04/27/15 14:52	
Chlorobenzene	ND		0.051		mg/Kg	#	04/22/15 12:15	04/27/15 14:52	
1,1,1,2-Tetrachloroethane	ND		0.051	0.0049			04/22/15 12:15	04/27/15 14:52	
Ethylbenzene	ND		0.051	0.0026		₽	04/22/15 12:15	04/27/15 14:52	
n,p-Xylene	ND		0.051	0.0038		₽	04/22/15 12:15	04/27/15 14:52	
o-Xylene	ND		0.051	0.0038	mg/Kg	₩	04/22/15 12:15	04/27/15 14:52	
Styrene	ND		0.051	0.0031		₩	04/22/15 12:15	04/27/15 14:52	
Bromoform	ND		0.051	0.0083		₩	04/22/15 12:15	04/27/15 14:52	
sopropylbenzene	ND		0.051	0.0033	mg/Kg	₩	04/22/15 12:15	04/27/15 14:52	
Bromobenzene	ND		0.051	0.0031	mg/Kg		04/22/15 12:15	04/27/15 14:52	
1,1,2,2-Tetrachloroethane	ND		0.013	0.0029	mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	
1,2,3-Trichloropropane	ND		0.051	0.015	mg/Kg	☼	04/22/15 12:15	04/27/15 14:52	
N-Propylbenzene	ND		0.051	0.0033	mg/Kg		04/22/15 12:15	04/27/15 14:52	

Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

Lab Sample ID: 580-49123-7

SDG: OR

Client Sample ID: OF-2 Overflow Catch Basin

Date Collected: 04/17/15 13:15 Date Received: 04/17/15 17:30

Matrix: Solid Percent Solids: 76.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		0.051	0.0043	mg/Kg	\$	04/22/15 12:15	04/27/15 14:52	1
4-Chlorotoluene	ND		0.051	0.0038	mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	1
tert-Butylbenzene	ND		0.051	0.0040	mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	1
1,2,4-Trimethylbenzene	ND		0.051	0.0031	mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	1
sec-Butylbenzene	ND		0.051	0.0036	mg/Kg	₩	04/22/15 12:15	04/27/15 14:52	1
p-Isopropyltoluene	0.0079	J	0.051	0.0036	mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	1
1,3-Dichlorobenzene	ND		0.077	0.013	mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	1
1,4-Dichlorobenzene	ND		0.077	0.014	mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	1
n-Butylbenzene	ND		0.051	0.0045	mg/Kg	₩	04/22/15 12:15	04/27/15 14:52	1
1,2-Dichlorobenzene	ND		0.051	0.015	mg/Kg	₩	04/22/15 12:15	04/27/15 14:52	1
1,2-Dibromo-3-Chloropropane	ND		0.26	0.0033	mg/Kg	₩	04/22/15 12:15	04/27/15 14:52	1
1,2,4-Trichlorobenzene	0.0083	J	0.051	0.0050	mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	1
Hexachlorobutadiene	ND		0.10	0.023	mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	1
Naphthalene	0.026	J	0.051	0.0045	mg/Kg	₩	04/22/15 12:15	04/27/15 14:52	1
1,2,3-Trichlorobenzene	0.015	J	0.051	0.0040	mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	1
1,3,5-Trimethylbenzene	ND		0.051	0.0037	mg/Kg	₽	04/22/15 12:15	04/27/15 14:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 120				04/22/15 12:15	04/27/15 14:52	1
1,2-Dichloroethane-d4 (Surr)	98		71 - 136				04/22/15 12:15	04/27/15 14:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	105		80 - 120	04/22/15 12:15	04/27/15 14:52	1
1,2-Dichloroethane-d4 (Surr)	98		71 - 136	04/22/15 12:15	04/27/15 14:52	1
4-Bromofluorobenzene (Surr)	98		70 - 120	04/22/15 12:15	04/27/15 14:52	1
Dibromofluoromethane (Surr)	95		75 - 132	04/22/15 12:15	04/27/15 14:52	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0085	J	0.013	0.0026	mg/Kg	<u> </u>	04/23/15 09:00	04/24/15 10:57	1
2-Methylnaphthalene	0.0036	J	0.0065	0.0016	mg/Kg	₽	04/23/15 09:00	04/24/15 10:57	1
1-Methylnaphthalene	0.0020	J	0.013	0.0019	mg/Kg	₽	04/23/15 09:00	04/24/15 10:57	1
Acenaphthylene	0.0058	J	0.0065	0.00063	mg/Kg	*	04/23/15 09:00	04/24/15 10:57	1
Acenaphthene	0.025		0.0065	0.0010	mg/Kg	₽	04/23/15 09:00	04/24/15 10:57	1
Fluorene	0.015		0.0065	0.00082	mg/Kg	₽	04/23/15 09:00	04/24/15 10:57	1
Phenanthrene	0.13	F1	0.013	0.0019	mg/Kg	₽	04/23/15 09:00	04/24/15 10:57	1
Anthracene	0.030		0.0065	0.00096	mg/Kg	₽	04/23/15 09:00	04/24/15 10:57	1
Fluoranthene	0.37		0.0065	0.0011	mg/Kg	₽	04/23/15 09:00	04/24/15 10:57	1
Pyrene	0.34		0.013	0.0019	mg/Kg	₽	04/23/15 09:00	04/24/15 10:57	1
Benzo[a]anthracene	0.24		0.013	0.0019	mg/Kg	₽	04/23/15 09:00	04/24/15 10:57	1
Chrysene	0.28	F1	0.0065	0.0012	mg/Kg	₽	04/23/15 09:00	04/24/15 10:57	1
Benzo[b]fluoranthene	0.38		0.013	0.0019	mg/Kg	\$	04/23/15 09:00	04/24/15 10:57	1
Benzo[k]fluoranthene	0.12		0.013	0.0019	mg/Kg	₽	04/23/15 09:00	04/24/15 10:57	1
Benzo[a]pyrene	0.33		0.0065	0.0012	mg/Kg	₽	04/23/15 09:00	04/24/15 10:57	1
Indeno[1,2,3-cd]pyrene	0.27		0.0065	0.0012	mg/Kg	\$	04/23/15 09:00	04/24/15 10:57	1
Dibenz(a,h)anthracene	0.057		0.0065	0.0012	mg/Kg	₩	04/23/15 09:00	04/24/15 10:57	1
Benzo[g,h,i]perylene	0.24		0.013	0.0019	mg/Kg	₽	04/23/15 09:00	04/24/15 10:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenvl-d14	94		42 - 151				04/23/15 09:00	04/24/15 10:57	1

Method: 8270D - Semivolatile Orga	nic Compou	nds (GC/MS	S)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		0.78	0.065	mg/Kg	\	04/23/15 09:00	04/24/15 17:40	1

Client: URS Corporation

Percent Moisture

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Client Sample ID: OF-2 Overflow Catch Basin

Date Collected: 04/17/15 13:15 Date Received: 04/17/15 17:30 Lab Sample ID: 580-49123-7

Matrix: Solid

Percent Solids: 76.6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Butyl benzyl phthalate	ND		0.26	0.065	mg/Kg	-	04/23/15 09:00	04/24/15 17:40	1
Diethyl phthalate	ND		0.26	0.019	mg/Kg	₩	04/23/15 09:00	04/24/15 17:40	1
Dimethyl phthalate	ND		0.13	0.0065	mg/Kg	₽	04/23/15 09:00	04/24/15 17:40	1
Di-n-butyl phthalate	ND		0.65	0.065	mg/Kg	₽	04/23/15 09:00	04/24/15 17:40	1
Di-n-octyl phthalate	0.071	J	0.65	0.0065	mg/Kg	₽	04/23/15 09:00	04/24/15 17:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	92		28 - 143				04/23/15 09:00	04/24/15 17:40	1
2-Fluorobiphenyl	88		42 - 140				04/23/15 09:00	04/24/15 17:40	1
2-Fluorophenol (Surr)	102		36 - 145				04/23/15 09:00	04/24/15 17:40	1
Nitrobenzene-d5 (Surr)	93		38 - 141				04/23/15 09:00	04/24/15 17:40	1
Phenol-d5 (Surr)	99		38 - 149				04/23/15 09:00	04/24/15 17:40	1
Terphenyl-d14 (Surr)	96		42 - 151				04/23/15 09:00	04/24/15 17:40	1
Method: NWTPH-Dx - Northwest -	Semi-Volatile	Petroleum	Products (GC))					
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	49	Y	31	4.5	mg/Kg	<u> </u>	04/23/15 08:49	04/24/15 13:44	1
Motor Oil (>C24-C36)	290	Y	63	11	mg/Kg	₽	04/23/15 08:49	04/24/15 13:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	85		50 - 150				04/23/15 08:49	04/24/15 13:44	1
Method: 6020 - Metals (ICP/MS)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.7		0.54	0.19	mg/Kg	<u> </u>	04/27/15 11:39	04/27/15 18:22	10
Barium	140		0.54	0.084	mg/Kg	₽	04/27/15 11:39	04/27/15 18:22	10
Cadmium	0.32		0.21	0.020	mg/Kg	₽	04/27/15 11:39	04/27/15 18:22	10
Chromium	18		0.54	0.068	mg/Kg		04/27/15 11:39	04/27/15 18:22	10
Lead	18		0.54	0.052	mg/Kg	₩	04/27/15 11:39	04/27/15 18:22	10
Selenium	1.3		1.1	0.22	mg/Kg	₩	04/27/15 11:39	04/27/15 18:22	10
Silver	0.082	J	0.21	0.013	mg/Kg		04/27/15 11:39	04/27/15 18:22	10
General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	77		0.10	0.10	%		·	04/22/15 16:29	1

0.10

23

0.10 %

04/22/15 16:29

Client: URS Corporation

Project/Site: Crown, Cork & Seal

Client Sample ID: Trip Blank

TestAmerica Job ID: 580-49123-1 SDG: OR

000.010

Lab Sample ID: 580-49123-9

. Matrix: Water

Date Collected: 04/16/15 00:00
Date Received: 04/17/15 17:30

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
1,2-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 17:19	
2-Chlorotoluene	ND		0.50	0.070	ug/L			04/23/15 17:19	
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			04/23/15 17:19	
Carbon tetrachloride	ND		0.20	0.025	ug/L			04/23/15 17:19	
cis-1,3-Dichloropropene	ND		0.50	0.090				04/23/15 17:19	
Chlorobenzene	ND		0.20	0.025				04/23/15 17:19	
Vinyl chloride	ND		0.020	0.013				04/23/15 17:19	
sec-Butylbenzene	ND		0.50	0.070				04/23/15 17:19	
Dibromomethane	ND		0.20	0.025				04/23/15 17:19	
m-Xylene & p-Xylene	ND		0.50	0.050				04/23/15 17:19	
o-Xylene	ND		0.50	0.060				04/23/15 17:19	
1,2,4-Trichlorobenzene	ND		0.20	0.040				04/23/15 17:19	
Styrene	ND		0.50	0.10				04/23/15 17:19	
Chlorobromomethane	ND		0.20	0.025				04/23/15 17:19	
Dichlorobromomethane	ND		0.20	0.025				04/23/15 17:19	
1,3-Dichlorobenzene	ND		0.30	0.023				04/23/15 17:19	
Benzene	ND		0.20	0.025				04/23/15 17:19	
Chloroethane	ND ND		0.50	0.025				04/23/15 17:19	
			0.30					04/23/15 17:19	
trans-1,3-Dichloropropene	ND			0.025	_				
1,2,3-Trichlorobenzene	ND		0.50	0.10	-			04/23/15 17:19	
N-Propylbenzene	ND		0.20	0.025				04/23/15 17:19	
4-Isopropyltoluene	ND		0.30	0.050	-			04/23/15 17:19	
n-Butylbenzene	ND		0.50	0.080				04/23/15 17:19	
1,1-Dichloropropene	ND		0.10	0.015				04/23/15 17:19	
cis-1,2-Dichloroethene	ND		0.20	0.025				04/23/15 17:19	
1,1,2,2-Tetrachloroethane	ND		0.20	0.025				04/23/15 17:19	
1,2,4-Trimethylbenzene	0.054	JB	0.20	0.030				04/23/15 17:19	
Toluene	ND		0.20	0.025				04/23/15 17:19	
Naphthalene	ND		0.50	0.10				04/23/15 17:19	
1,3,5-Trimethylbenzene	ND		0.50	0.083				04/23/15 17:19	
1,3-Dichloropropane	ND		0.20	0.025				04/23/15 17:19	
Chloroform	ND		0.20	0.030	ug/L			04/23/15 17:19	
4-Chlorotoluene	ND		0.30	0.050	ug/L			04/23/15 17:19	
Chlorodibromomethane	ND		0.20	0.025	_			04/23/15 17:19	
Dichlorodifluoromethane	ND		0.40	0.050	ug/L			04/23/15 17:19	
1,1,2-Trichloroethane	ND		0.20	0.025				04/23/15 17:19	
tert-Butylbenzene	ND		0.50	0.10	ug/L			04/23/15 17:19	
Chloromethane	ND		0.30	0.050	ug/L			04/23/15 17:19	
1,1-Dichloroethene	ND		0.10	0.018	ug/L			04/23/15 17:19	
Isopropylbenzene	ND		0.50	0.060	ug/L			04/23/15 17:19	
1,2-Dichloroethane	ND		0.20	0.025	ug/L			04/23/15 17:19	
Tetrachloroethene	ND		0.50	0.070	ug/L			04/23/15 17:19	
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			04/23/15 17:19	
2,2-Dichloropropane	ND		0.50	0.060				04/23/15 17:19	
1,2-Dibromoethane	ND		0.10	0.025				04/23/15 17:19	
Bromoform	ND		0.50	0.080				04/23/15 17:19	
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/23/15 17:19	
Trichlorofluoromethane	ND	*	0.50	0.025	-			04/23/15 17:19	
Trichloroethene	ND		0.20	0.025				04/23/15 17:19	

TestAmerica Seattle

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Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Client Sample ID: Trip Blank

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Date Collected: 04/16/15 00:00 Date Received: 04/17/15 17:30 Lab Sample ID: 580-49123-9

Matrix: Water

Method: 8260B - Volatile Orga	•		•			_			B.: E
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	ND		0.20	0.035	ug/L			04/23/15 17:19	1
1,2-Dichloropropane	ND		0.20	0.025	ug/L			04/23/15 17:19	1
1,1,1,2-Tetrachloroethane	ND		0.20	0.025	ug/L			04/23/15 17:19	1
Ethylbenzene	ND		0.20	0.030	ug/L			04/23/15 17:19	1
trans-1,2-Dichloroethene	ND		0.20	0.025	ug/L			04/23/15 17:19	1
Hexachlorobutadiene	ND		0.50	0.075	ug/L			04/23/15 17:19	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			04/23/15 17:19	1
Bromomethane	ND		1.0	0.16	ug/L			04/23/15 17:19	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 17:19	1
Methyl tert-butyl ether	ND		0.20	0.025	ug/L			04/23/15 17:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		75 - 120			_		04/23/15 17:19	1
Trifluorotoluene (Surr)	104		80 - 127					04/23/15 17:19	1
Toluene-d8 (Surr)	97		75 - 125					04/23/15 17:19	1
1,2-Dichloroethane-d4 (Surr)	104		70 - 128					04/23/15 17:19	1
Dibromofluoromethane (Surr)	109		85 ₋ 115					04/23/15 17:19	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	4.7	В	0.50	0.11	ug/L			04/28/15 14:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		75 - 120			-		04/28/15 14:56	1
Trifluorotoluene (Surr)	98		80 - 127					04/28/15 14:56	1
Toluene-d8 (Surr)	100		75 - 125					04/28/15 14:56	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 128					04/28/15 14:56	1
Dibromofluoromethane (Surr)	100		85 - 115					04/28/15 14:56	1

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Client: URS Corporation

TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal SDG: OR

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-187604/5

Matrix: Water

Trichlorofluoromethane

Client Sample ID: Method Blank **Prep Type: Total/NA**

Analysis Batch: 187604	MB	МВ							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 14:16	1
2-Chlorotoluene	ND		0.50	0.070	ug/L			04/23/15 14:16	1
1,2,3-Trichloropropane	ND		0.20	0.050	ug/L			04/23/15 14:16	1
Carbon tetrachloride	ND		0.20	0.025	ug/L			04/23/15 14:16	1
cis-1,3-Dichloropropene	ND		0.50	0.090	ug/L			04/23/15 14:16	1
Chlorobenzene	ND		0.20	0.025	ug/L			04/23/15 14:16	1
Vinyl chloride	ND		0.020	0.013	ug/L			04/23/15 14:16	1
sec-Butylbenzene	ND		0.50	0.070	ug/L			04/23/15 14:16	1
Dibromomethane	ND		0.20	0.025	ug/L			04/23/15 14:16	1
m-Xylene & p-Xylene	ND		0.50	0.050	ug/L			04/23/15 14:16	1
o-Xylene	ND		0.50	0.060	ug/L			04/23/15 14:16	1
1,2,4-Trichlorobenzene	ND		0.20	0.040	ug/L			04/23/15 14:16	1
Styrene	ND		0.50	0.10	ug/L			04/23/15 14:16	1
Chlorobromomethane	ND		0.20	0.025	ug/L			04/23/15 14:16	1
Dichlorobromomethane	ND		0.20	0.025	ug/L			04/23/15 14:16	1
1,3-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 14:16	1
Benzene	ND		0.20	0.025	ug/L			04/23/15 14:16	1
Chloroethane	ND		0.50	0.075	ug/L			04/23/15 14:16	1
trans-1,3-Dichloropropene	ND		0.20	0.025	ug/L			04/23/15 14:16	1
1,2,3-Trichlorobenzene	ND		0.50	0.10	ug/L			04/23/15 14:16	1
N-Propylbenzene	ND		0.20	0.025	ug/L			04/23/15 14:16	1
4-Isopropyltoluene	ND		0.30	0.050	ug/L			04/23/15 14:16	1
n-Butylbenzene	ND		0.50	0.080	ug/L			04/23/15 14:16	1
1,1-Dichloropropene	ND		0.10	0.015	ug/L			04/23/15 14:16	1
cis-1,2-Dichloroethene	ND		0.20	0.025	ug/L			04/23/15 14:16	1
1,1,2,2-Tetrachloroethane	ND		0.20	0.025	ug/L			04/23/15 14:16	1
1,2,4-Trimethylbenzene	0.0940	J	0.20	0.030	ug/L			04/23/15 14:16	1
Toluene	ND		0.20	0.025	ug/L			04/23/15 14:16	1
Naphthalene	ND		0.50	0.10	ug/L			04/23/15 14:16	1
1,3,5-Trimethylbenzene	ND		0.50	0.083	ug/L			04/23/15 14:16	1
1,3-Dichloropropane	ND		0.20	0.025	ug/L			04/23/15 14:16	1
Chloroform	ND		0.20	0.030	ug/L			04/23/15 14:16	1
4-Chlorotoluene	ND		0.30	0.050	ug/L			04/23/15 14:16	1
Chlorodibromomethane	ND		0.20	0.025	ug/L			04/23/15 14:16	1
Dichlorodifluoromethane	ND		0.40	0.050	ug/L			04/23/15 14:16	1
1,1,2-Trichloroethane	ND		0.20	0.025	ug/L			04/23/15 14:16	1
tert-Butylbenzene	ND		0.50	0.10	ug/L			04/23/15 14:16	1
Chloromethane	ND		0.30	0.050	ug/L			04/23/15 14:16	1
1,1-Dichloroethene	ND		0.10	0.018	ug/L			04/23/15 14:16	1
Isopropylbenzene	ND		0.50	0.060	ug/L			04/23/15 14:16	1
1,2-Dichloroethane	ND		0.20	0.025	ug/L			04/23/15 14:16	1
Tetrachloroethene	ND		0.50	0.070	ug/L			04/23/15 14:16	1
1,1,1-Trichloroethane	ND		0.20	0.025	ug/L			04/23/15 14:16	1
2,2-Dichloropropane	ND		0.50	0.060	ug/L			04/23/15 14:16	1
1,2-Dibromoethane	ND		0.10	0.025	ug/L			04/23/15 14:16	1
Bromoform	ND		0.50	0.080	ug/L			04/23/15 14:16	1
1,2-Dibromo-3-Chloropropane	ND		2.0	0.44	ug/L			04/23/15 14:16	1
T / 1 h / 1 · 1 · 0 · 1 · 1 · 1 · 1 · 1 · 1 · 1	ND		0.50					04/00/45 44 40	

TestAmerica Seattle

04/23/15 14:16

0.50

0.025 ug/L

ND

TestAmerica Job ID: 580-49123-1

SDG: OR

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-187604/5

Project/Site: Crown, Cork & Seal

Matrix: Water

Analysis Batch: 187604

Client: URS Corporation

Client Sample ID: Method Blank Prep Type: Total/NA

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	ND		0.20	0.025	ug/L			04/23/15 14:16	1
Bromobenzene	ND		0.20	0.035	ug/L			04/23/15 14:16	1
1,2-Dichloropropane	ND		0.20	0.025	ug/L			04/23/15 14:16	1
1,1,1,2-Tetrachloroethane	ND		0.20	0.025	ug/L			04/23/15 14:16	1
Ethylbenzene	ND		0.20	0.030	ug/L			04/23/15 14:16	1
trans-1,2-Dichloroethene	ND		0.20	0.025	ug/L			04/23/15 14:16	1
Hexachlorobutadiene	ND		0.50	0.075	ug/L			04/23/15 14:16	1
1,1-Dichloroethane	ND		0.20	0.025	ug/L			04/23/15 14:16	1
Bromomethane	ND		1.0	0.16	ug/L			04/23/15 14:16	1
1,4-Dichlorobenzene	ND		0.30	0.050	ug/L			04/23/15 14:16	1
Methyl tert-butyl ether	ND		0.20	0.025	ug/L			04/23/15 14:16	1

MB MB %Recovery Qualifier Dil Fac Surrogate Limits Prepared Analyzed 4-Bromofluorobenzene (Surr) 104 75 - 120 04/23/15 14:16 Trifluorotoluene (Surr) 107 80 - 127 04/23/15 14:16 Toluene-d8 (Surr) 99 75 - 125 04/23/15 14:16 101 70 - 128 1,2-Dichloroethane-d4 (Surr) 04/23/15 14:16 85 - 115 Dibromofluoromethane (Surr) 103 04/23/15 14:16

Lab Sample ID: LCS 580-187604/6

Matrix: Water

Analysis Batch: 187604

Client Sample ID: Lab Control Sample Prep Type: Total/NA

-	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,2-Dichlorobenzene	5.00	4.80		ug/L		96	80 - 130	
2-Chlorotoluene	5.00	5.57		ug/L		111	75 ₋ 130	
1,2,3-Trichloropropane	5.00	5.29		ug/L		106	75 ₋ 120	
Carbon tetrachloride	5.00	5.76		ug/L		115	75 - 140	
cis-1,3-Dichloropropene	5.00	5.68		ug/L		114	70 - 120	
Chlorobenzene	5.00	4.82		ug/L		96	80 - 120	
Vinyl chloride	5.00	5.44		ug/L		109	65 _ 140	
sec-Butylbenzene	5.00	5.59		ug/L		112	80 - 125	
Dibromomethane	5.00	5.49		ug/L		110	80 - 130	
m-Xylene & p-Xylene	5.00	5.26		ug/L		105	80 - 130	
o-Xylene	5.00	5.27		ug/L		105	80 - 120	
1,2,4-Trichlorobenzene	5.00	3.86		ug/L		77	60 _ 125	
Styrene	5.00	5.46		ug/L		109	75 ₋ 130	
Chlorobromomethane	5.00	5.58		ug/L		112	80 - 125	
Dichlorobromomethane	5.00	5.36		ug/L		107	80 - 125	
1,3-Dichlorobenzene	5.00	4.95		ug/L		99	80 - 120	
Benzene	5.00	5.27		ug/L		105	80 - 120	
Chloroethane	5.00	5.28		ug/L		106	75 ₋ 140	
trans-1,3-Dichloropropene	5.00	5.35		ug/L		107	60 - 140	
1,2,3-Trichlorobenzene	5.00	3.21		ug/L		64	60 _ 125	
N-Propylbenzene	5.00	5.48		ug/L		110	80 - 120	
4-Isopropyltoluene	5.00	4.89		ug/L		98	80 - 120	
n-Butylbenzene	5.00	5.04		ug/L		101	75 ₋ 125	
1,1-Dichloropropene	5.00	5.98		ug/L		120	80 - 130	

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Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-187604/6

Matrix: Water

Analysis Batch: 187604

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analysis Batch: 167604	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
cis-1,2-Dichloroethene	5.00	5.21	-	ug/L		104	80 - 130	
1,1,2,2-Tetrachloroethane	5.00	4.81		ug/L		96	75 - 125	
1,2,4-Trimethylbenzene	5.00	5.54		ug/L		111	80 - 125	
Toluene	5.00	5.07		ug/L		101	80 - 120	
Naphthalene	5.00	3.86		ug/L		77	45 - 130	
1,3,5-Trimethylbenzene	5.00	5.64		ug/L		113	80 - 125	
1,3-Dichloropropane	5.00	4.66		ug/L		93	80 - 130	
Chloroform	5.00	5.06		ug/L		101	80 - 130	
4-Chlorotoluene	5.00	5.50		ug/L		110	75 - 130	
Chlorodibromomethane	5.00	5.41		ug/L		108	70 - 120	
Dichlorodifluoromethane	5.00	4.08		ug/L		82	30 - 180	
1,1,2-Trichloroethane	5.00	4.89		ug/L		98	80 - 130	
tert-Butylbenzene	5.00	5.70		ug/L		114	80 - 130	
Chloromethane	5.00	5.38		ug/L		108	50 - 140	
1,1-Dichloroethene	5.00	4.77		ug/L		95	70 - 150	
Isopropylbenzene	5.00	5.57		ug/L		111	75 - 120	
1,2-Dichloroethane	5.00	4.85		ug/L		97	80 - 140	
Tetrachloroethene	5.00	6.59		ug/L		132	40 - 180	
1,1,1-Trichloroethane	5.00	5.57		ug/L		111	80 - 140	
2,2-Dichloropropane	5.00	5.87		ug/L		117	60 - 150	
1,2-Dibromoethane	5.00	4.98		ug/L		100	70 - 130	
Bromoform	5.00	4.70		ug/L		94	65 _ 130	
1,2-Dibromo-3-Chloropropane	5.00	4.72		ug/L		94	55 - 120	
Trichlorofluoromethane	5.00	5.28		ug/L		106	30 - 180	
Trichloroethene	5.00	5.57		ug/L		111	80 - 130	
Bromobenzene	5.00	5.35		ug/L		107	80 - 130	
1,2-Dichloropropane	5.00	5.22		ug/L		104	80 - 120	
1,1,1,2-Tetrachloroethane	5.00	5.30		ug/L		106	75 ₋ 125	
Ethylbenzene	5.00	5.11		ug/L		102	80 - 125	
trans-1,2-Dichloroethene	5.00	5.64		ug/L		113	80 - 140	
Hexachlorobutadiene	5.00	3.93		ug/L		79	75 - 135	
1,1-Dichloroethane	5.00	5.41		ug/L		108	75 ₋ 135	
Bromomethane	5.00	5.81		ug/L		116	70 _ 135	
1,4-Dichlorobenzene	5.00	4.87		ug/L		97	80 - 120	
Methyl tert-butyl ether	5.00	5.73		ug/L		115	75 - 120	

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		75 _ 120
Trifluorotoluene (Surr)	109		80 - 127
Toluene-d8 (Surr)	97		75 - 125
1,2-Dichloroethane-d4 (Surr)	98		70 - 128
Dibromofluoromethane (Surr)	107		85 - 115

Client: URS Corporation Project/Site: Crown, Cork & Seal TestAmerica Job ID: 580-49123-1

SDG: OR

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-187604/7

Matrix: Water

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

	Spike	LCSD	LCSD				%Rec.		RF
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Lin
1,2-Dichlorobenzene	5.00	4.93		ug/L		99	80 - 130	3	
2-Chlorotoluene	5.00	5.46		ug/L		109	75 ₋ 130	2	:
1,2,3-Trichloropropane	5.00	5.45		ug/L		109	75 ₋ 120	3	:
Carbon tetrachloride	5.00	5.48		ug/L		110	75 ₋ 140	5	
cis-1,3-Dichloropropene	5.00	5.80		ug/L		116	70 - 120	2	
Chlorobenzene	5.00	4.83		ug/L		97	80 - 120	0	
Vinyl chloride	5.00	5.26		ug/L		105	65 - 140	3	
sec-Butylbenzene	5.00	5.64		ug/L		113	80 - 125	1	:
Dibromomethane	5.00	5.57		ug/L		111	80 - 130	2	:
m-Xylene & p-Xylene	5.00	5.25		ug/L		105	80 - 130	0	
o-Xylene	5.00	5.06		ug/L		101	80 - 120	4	:
1,2,4-Trichlorobenzene	5.00	4.29		ug/L		86	60 - 125	11	:
	5.00	5.39					75 - 130	· · · · · · · · · · · · · · · · · · ·	
Styrene	5.00	5.39		ug/L		108		7	:
Chlorobromomethane Dichlorobromomethane	5.00	5.23		ug/L ug/L		105 108	80 ₋ 125 80 ₋ 125	1	
				.					
1,3-Dichlorobenzene	5.00	4.97		ug/L		99	80 ₋ 120	0	
Benzene	5.00	5.28		ug/L		106	80 - 120	0	
Chloroethane	5.00	5.13		ug/L		103	75 - 140	3	
trans-1,3-Dichloropropene	5.00	5.66		ug/L		113	60 - 140	5	
1,2,3-Trichlorobenzene	5.00	3.75		ug/L		75	60 - 125	15	
N-Propylbenzene	5.00	5.50		ug/L		110	80 _ 120		
4-Isopropyltoluene	5.00	5.01		ug/L		100	80 - 120	2	
n-Butylbenzene	5.00	5.19		ug/L		104	75 ₋ 125	3	
1,1-Dichloropropene	5.00	5.82		ug/L		116	80 - 130	3	
cis-1,2-Dichloroethene	5.00	5.02		ug/L		100	80 - 130	4	
1,1,2,2-Tetrachloroethane	5.00	4.82		ug/L		96	75 - 125	0	
1,2,4-Trimethylbenzene	5.00	5.52		ug/L		110	80 - 125	0	
Toluene	5.00	5.03		ug/L		101	80 - 120	1	
Naphthalene	5.00	4.49		ug/L		90	45 - 130	15	
1,3,5-Trimethylbenzene	5.00	5.64		ug/L		113	80 - 125	0	
1,3-Dichloropropane	5.00	4.85		ug/L		97	80 - 130	4	
Chloroform	5.00	4.77		ug/L		95	80 - 130	6	
4-Chlorotoluene	5.00	5.51		ug/L		110	75 - 130	0	
Chlorodibromomethane	5.00	5.38		ug/L		108	70 - 120	0	
Dichlorodifluoromethane	5.00	3.95		ug/L		79	30 - 180	3	
1,1,2-Trichloroethane	5.00	4.98		ug/L		100	80 - 130	2	
tert-Butylbenzene	5.00	5.73		ug/L		115	80 - 130	0	
Chloromethane	5.00	5.27		ug/L		105	50 - 140	2	
1,1-Dichloroethene	5.00	4.92		ug/L		98	70 - 150	3	
Isopropylbenzene	5.00	5.42		ug/L		108	75 - 120	3	
1,2-Dichloroethane	5.00	4.96		ug/L		99	80 - 140	2	
Tetrachloroethene	5.00	5.70		ug/L		114	40 - 180	14	
1,1,1-Trichloroethane	5.00	5.12		ug/L		102	80 - 140	8	
2,2-Dichloropropane	5.00	4.93		ug/L		99	60 - 150	17	
1,2-Dibromoethane	5.00	5.14		ug/L		103	70 - 130	3	
Bromoform	5.00	4.60		ug/L		92	65 - 130	2	
1,2-Dibromo-3-Chloropropane	5.00	5.08		ug/L		102	55 - 120	7	
Trichlorofluoromethane	5.00	4.04		ug/L		81	30 - 180	27	

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Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1 SDG: OR

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-187604/7

Matrix: Water

Analysis Batch: 187604

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Trichloroethene	5.00	5.58		ug/L		112	80 - 130	0	20
Bromobenzene	5.00	5.37		ug/L		107	80 - 130	0	20
1,2-Dichloropropane	5.00	5.33		ug/L		107	80 - 120	2	20
1,1,1,2-Tetrachloroethane	5.00	5.15		ug/L		103	75 - 125	3	20
Ethylbenzene	5.00	5.02		ug/L		100	80 - 125	2	20
trans-1,2-Dichloroethene	5.00	5.28		ug/L		106	80 - 140	7	20
Hexachlorobutadiene	5.00	4.40		ug/L		88	75 - 135	11	20
1,1-Dichloroethane	5.00	5.08		ug/L		102	75 - 135	6	20
Bromomethane	5.00	5.94		ug/L		119	70 - 135	2	20
1,4-Dichlorobenzene	5.00	4.80		ug/L		96	80 - 120	1	20
Methyl tert-butyl ether	5.00	5.56		ug/L		111	75 - 120	3	20

LCSD LCSD

MB MB

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		75 - 120
Trifluorotoluene (Surr)	109		80 - 127
Toluene-d8 (Surr)	96		75 - 125
1,2-Dichloroethane-d4 (Surr)	97		70 - 128
Dibromofluoromethane (Surr)	103		85 - 115

Lab Sample ID: MB 580-188017/14

Matrix: Water

Analysis Batch: 188017

Client Sample ID: Method Blank Prep Type: Total/NA

Analyte	Result	Qualifier	RL	MDL	Unit	כ	Prepared	Analyzed	Dil Fac
Methylene Chloride	0.480	J	0.50	0.11	ug/L			04/28/15 12:27	1
	МВ	МВ							

	INID	IVID				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		75 - 120		04/28/15 12:27	1
Trifluorotoluene (Surr)	97		80 - 127		04/28/15 12:27	1
Toluene-d8 (Surr)	101		75 - 125		04/28/15 12:27	1
1,2-Dichloroethane-d4 (Surr)	102		70 - 128		04/28/15 12:27	1
Dibromofluoromethane (Surr)	98		85 - 115		04/28/15 12:27	1

Lab Sample ID: LCS 580-188017/15

Matrix: Water

Analysis Batch: 188017

Client Sample ID: Lab Control Sample Prep Type: Total/NA

LCS LCS Spike %Rec. Added Result Qualifier Analyte Unit %Rec Limits Methylene Chloride 5.00 5.04 ug/L 101 60 - 145

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		75 - 120
Trifluorotoluene (Surr)	100		80 - 127
Toluene-d8 (Surr)	100		75 - 125
1,2-Dichloroethane-d4 (Surr)	101		70 - 128
Dibromofluoromethane (Surr)	101		85 - 115

Client: URS Corporation Project/Site: Crown, Cork & Seal TestAmerica Job ID: 580-49123-1

SDG: OR

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-188017/16

Matrix: Water

Client Sample II	D: Lab	Control	Sample Dup
		Prep Ty	/pe: Total/NA

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Lim
1,2-Dichlorobenzene	5.00	4.65		ug/L		93	80 - 130	1	2
2-Chlorotoluene	5.00	4.60		ug/L		92	75 - 130	0	2
1,2,3-Trichloropropane	5.00	4.61		ug/L		92	75 - 120	0	2
Carbon tetrachloride	5.00	4.77		ug/L		95	75 - 140	1	2
cis-1,3-Dichloropropene	5.00	4.83		ug/L		97	70 - 120	0	2
Chlorobenzene	5.00	4.52		ug/L		90	80 - 120	0	2
Vinyl chloride	5.00	5.90	Λ	ug/L		118	65 - 140	2	2
sec-Butylbenzene	5.00	4.75		ug/L		95	80 - 125	1	2
Dibromomethane	5.00	4.49		ug/L		90	80 - 130	1	2
m-Xylene & p-Xylene	5.00	4.69		ug/L		94	80 - 130	0	2
o-Xylene	5.00	4.82		ug/L		96	80 - 120	1	2
1,2,4-Trichlorobenzene	5.00	4.95		ug/L		99	60 ₋ 125	1	2
Styrene	5.00	4.94		ug/L		99	75 - 130	0	2 2
Chlorobromomethane	5.00	4.52		ug/L		90	80 - 125	0	2
Dichlorobromomethane	5.00	4.66		ug/L		93	80 - 125	1	2
1,3-Dichlorobenzene	5.00	4.60		ug/L		92	80 - 120		2
Benzene	5.00	4.36		ug/L		87	80 - 120	1	2
Chloroethane	5.00	4.67		ug/L		93	75 - 140	11	2
trans-1,3-Dichloropropene	5.00	5.20		ug/L		104	60 - 140		2
1,2,3-Trichlorobenzene	5.00	5.11		ug/L		102	60 - 125	1	2
N-Propylbenzene	5.00	4.61		ug/L		92	80 - 120	0	2
4-Isopropyltoluene	5.00	4.51		ug/L		90	80 - 120	1	2
n-Butylbenzene	5.00	4.79		ug/L ug/L		96	75 ₋ 125	0	2
1,1-Dichloropropene	5.00	4.79		ug/L		99	80 ₋ 130	0	2
						89	80 - 130	2	2
cis-1,2-Dichloroethene	5.00 5.00	4.45 4.57		ug/L		91	75 ₋ 125	2	
1,1,2,2-Tetrachloroethane	5.00	4.57		ug/L			75 - 125 80 - 125	0	2
1,2,4-Trimethylbenzene				ug/L		96			
Toluene	5.00	4.55		ug/L		91	80 - 120	0	2
Naphthalene	5.00	5.32		ug/L		106	45 - 130	1	2
1,3,5-Trimethylbenzene	5.00	4.78		ug/L		96	80 - 125	<u>.</u> .	2
1,3-Dichloropropane	5.00	4.57		ug/L		91	80 - 130	1	2
Chloroform	5.00	4.56		ug/L		91	80 - 130	1	2
4-Chlorotoluene	5.00	4.63		ug/L		93	75 - 130	0	2
Chlorodibromomethane	5.00	4.58		ug/L		92	70 - 120	3	2
Dichlorodifluoromethane	5.00	6.75		ug/L		135	30 - 180	4	2
1,1,2-Trichloroethane	5.00	4.66		ug/L		93	80 - 130		2
tert-Butylbenzene	5.00	4.78		ug/L		96	80 - 130	1	2
Chloromethane	5.00	6.21		ug/L		124	50 - 140	7	2
Methylene Chloride	5.00	4.96		ug/L		99	60 - 145	2	2
1,1-Dichloroethene	5.00	4.23		ug/L		85	70 - 150	1	2
Isopropylbenzene	5.00	4.76		ug/L		95	75 - 120	1	2
1,2-Dichloroethane	5.00	4.49		ug/L		90	80 - 140	1	2
Tetrachloroethene	5.00	6.06		ug/L		121	40 - 180	16	2
1,1,1-Trichloroethane	5.00	4.55		ug/L		91	80 - 140	1	2
2,2-Dichloropropane	5.00	4.51		ug/L		90	60 - 150	0	2
1,2-Dibromoethane	5.00	4.53		ug/L		91	70 - 130	1	2
Bromoform	5.00	4.18		ug/L		84	65 - 130	3	2
1,2-Dibromo-3-Chloropropane	5.00	5.28		ug/L		106	55 ₋ 120	5	2

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TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal SDG: OR

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-188017/16

Matrix: Water

Analysis Batch: 188017

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Trichlorofluoromethane	5.00	5.21		ug/L		104	30 - 180	5	20
Trichloroethene	5.00	4.66		ug/L		93	80 - 130	0	20
Bromobenzene	5.00	4.46		ug/L		89	80 - 130	0	20
1,2-Dichloropropane	5.00	4.57		ug/L		91	80 - 120	1	20
1,1,1,2-Tetrachloroethane	5.00	4.73		ug/L		95	75 - 125	2	20
Ethylbenzene	5.00	4.61		ug/L		92	80 - 125	0	20
trans-1,2-Dichloroethene	5.00	4.53		ug/L		91	80 - 140	2	20
Hexachlorobutadiene	5.00	4.77		ug/L		95	75 - 135	2	20
1,1-Dichloroethane	5.00	4.59		ug/L		92	75 - 135	3	20
Bromomethane	5.00	5.46		ug/L		109	70 - 135	6	20
1,4-Dichlorobenzene	5.00	4.69		ug/L		94	80 - 120	1	20
Methyl tert-butyl ether	5.00	4.51		ug/L		90	75 - 120	0	20

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		75 - 120
Trifluorotoluene (Surr)	98		80 - 127
Toluene-d8 (Surr)	100		75 - 125
1,2-Dichloroethane-d4 (Surr)	102		70 - 128
Dibromofluoromethane (Surr)	102		85 - 115

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-187513/1-A

Matrix: Solid

Analysis Batch: 187992

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 187513

Analysis Batch: 187992								Prep Batch:	. 18/513
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		0.040	0.0065	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
Chloromethane	ND		0.10	0.010	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
Vinyl chloride	ND		0.016	0.0071	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
Bromomethane	ND		0.14	0.013	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
Chloroethane	ND		0.40	0.016	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
Trichlorofluoromethane	ND		0.040	0.0059	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
1,1-Dichloroethene	ND		0.020	0.0049	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
Carbon disulfide	ND		0.040	0.0044	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
Acetone	ND		0.80	0.17	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
Methylene Chloride	ND		0.025	0.012	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
Methyl tert-butyl ether	ND		0.040	0.0060	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
trans-1,2-Dichloroethene	ND		0.040	0.0038	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
1,1-Dichloroethane	ND		0.040	0.0042	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
2,2-Dichloropropane	ND		0.040	0.0048	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
cis-1,2-Dichloroethene	ND		0.040	0.0049	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
2-Butanone (MEK)	ND		0.40	0.052	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
Bromochloromethane	ND		0.040	0.0046	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
Chloroform	ND		0.040	0.0042	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
1,1,1-Trichloroethane	ND		0.040	0.0056	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
Carbon tetrachloride	ND		0.020	0.0038	mg/Kg		04/22/15 12:15	04/27/15 12:50	1
1,1-Dichloropropene	ND		0.040	0.0053	mg/Kg		04/22/15 12:15	04/27/15 12:50	1

TestAmerica Seattle

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5/4/2015

TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal SDG: OR

RL

0.016

0.016

MDL Unit

0.0035 mg/Kg 0.0033 mg/Kg

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

мв мв

ND

ND

Result Qualifier

Lab Sample ID: MB 580-187513/1-A

Matrix: Solid

1,2-Dichloroethane

p-Isopropyltoluene

1,3-Dichlorobenzene

1,4-Dichlorobenzene

1,2-Dichlorobenzene

1,2,4-Trichlorobenzene

1,2,3-Trichlorobenzene

1,3,5-Trimethylbenzene

Hexachlorobutadiene

Naphthalene

1,2-Dibromo-3-Chloropropane

n-Butylbenzene

Analyte

Benzene

Analysis Batch: 187992

Client Sample ID: Method Blank Prep Type: Total/NA **Prep Batch: 187513**

Analyzed

04/27/15 12:50

Prepared

04/22/15 12:15

04/22/15 12:15

04/22/15 12:15

04/22/15 12:15

04/22/15 12:15

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04/27/15 12:50

04/27/15 12:50

04/27/15 12:50

Dil Fac 04/27/15 12:50

.,		0.0.0	0.0000gg	0	
Trichloroethene	ND	0.024	0.0031 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
1,2-Dichloropropane	ND	0.012	0.0024 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
Dibromomethane	ND	0.060	0.013 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
Bromodichloromethane	ND	0.040	0.0014 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
cis-1,3-Dichloropropene	ND	0.016	0.0018 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
4-Methyl-2-pentanone (MIBK)	ND	0.20	0.030 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
Toluene	0.00295 J	0.040	0.0026 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
trans-1,3-Dichloropropene	ND	0.040	0.0070 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
1,1,2-Trichloroethane	ND	0.012	0.0028 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
Tetrachloroethene	ND	0.020	0.0053 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
1,3-Dichloropropane	ND	0.040	0.0055 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
2-Hexanone	ND	0.20	0.036 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
Dibromochloromethane	ND	0.020	0.0028 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
1,2-Dibromoethane	ND	0.016	0.0034 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
Chlorobenzene	ND	0.040	0.0098 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
1,1,1,2-Tetrachloroethane	ND	0.040	0.0038 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
Ethylbenzene	ND	0.040	0.0020 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
m,p-Xylene	ND	0.040	0.0030 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
o-Xylene	ND	0.040	0.0030 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
Styrene	ND	0.040	0.0024 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
Bromoform	ND	0.040	0.0065 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
Isopropylbenzene	ND	0.040	0.0026 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
Bromobenzene	ND	0.040	0.0024 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
1,1,2,2-Tetrachloroethane	ND	0.010	0.0023 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
1,2,3-Trichloropropane	ND	0.040	0.012 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
N-Propylbenzene	ND	0.040	0.0026 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
2-Chlorotoluene	ND	0.040	0.0034 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
4-Chlorotoluene	ND	0.040	0.0030 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
tert-Butylbenzene	ND	0.040	0.0031 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
1,2,4-Trimethylbenzene	ND	0.040	0.0024 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1
sec-Butylbenzene	ND	0.040	0.0028 mg/Kg	04/22/15 12:15 04/27/15 1	2:50 1

ND

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	102		80 - 120	04/22/15 12:15	04/27/15 12:50	1
1,2-Dichloroethane-d4 (Surr)	104		71 - 136	04/22/15 12:15	04/27/15 12:50	1

0.040

0.060

0.060

0.040

0.040

0.20

0.040

0.080

0.040

0.040

0.040

0.0028 mg/Kg

0.011 mg/Kg

0.011 mg/Kg

0.0035 mg/Kg

0.012 mg/Kg

0.0026 mg/Kg

0.0039 mg/Kg

0.018 mg/Kg

0.0035 mg/Kg

0.0031 mg/Kg

0.0029 mg/Kg

TestAmerica Seattle

Client: URS Corporation

TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal SDG: OR

Limits

70 - 120

75 - 132

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

MB MB

%Recovery Qualifier

101

101

Lab Sample ID: MB 580-187513/1-A

Matrix: Solid

Surrogate

Analysis Batch: 187992

4-Bromofluorobenzene (Surr)

Dibromofluoromethane (Surr)

Client Sample ID: Method Blank **Prep Type: Total/NA**

Prep Batch: 187513

Prepared Dil Fac Analyzed 04/22/15 12:15 04/27/15 12:50 04/22/15 12:15 04/27/15 12:50

Lab Sample ID: LCS 580-187513/2-A

Matrix: Solid

Analysis Batch: 187992

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 187513

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Dichlorodifluoromethane	0.800	0.538		mg/Kg		67	38 - 150	
Chloromethane	0.800	0.664		mg/Kg		83	55 - 136	
Vinyl chloride	0.800	0.661		mg/Kg		83	67 _ 131	
Bromomethane	0.800	0.866		mg/Kg		108	57 - 148	
Chloroethane	0.800	0.765		mg/Kg		96	48 - 167	
Trichlorofluoromethane	0.800	0.793		mg/Kg		99	47 - 165	
1,1-Dichloroethene	0.800	0.721		mg/Kg		90	70 - 133	
Carbon disulfide	0.800	0.806		mg/Kg		101	45 - 160	
Acetone	3.20	2.94		mg/Kg		92	20 - 160	
Methylene Chloride	0.800	0.788		mg/Kg		99	57 ₋ 146	
Methyl tert-butyl ether	0.800	0.762		mg/Kg		95	65 - 125	
trans-1,2-Dichloroethene	0.800	0.765		mg/Kg		96	76 - 131	
1,1-Dichloroethane	0.800	0.767		mg/Kg		96	70 - 128	
2,2-Dichloropropane	0.800	0.839		mg/Kg		105	56 - 144	
cis-1,2-Dichloroethene	0.800	0.730		mg/Kg		91	70 - 130	
2-Butanone (MEK)	3.20	3.05		mg/Kg		95	30 - 160	
Bromochloromethane	0.800	0.753		mg/Kg		94	78 - 123	
Chloroform	0.800	0.776		mg/Kg		97	78 - 125	
1,1,1-Trichloroethane	0.800	0.828		mg/Kg		104	63 - 135	
Carbon tetrachloride	0.800	0.848		mg/Kg		106	59 - 145	
1,1-Dichloropropene	0.800	0.858		mg/Kg		107	77 - 125	
Benzene	0.800	0.767		mg/Kg		96	70 - 128	
1,2-Dichloroethane	0.800	0.755		mg/Kg		94	71 - 128	
Trichloroethene	0.800	0.788		mg/Kg		99	83 - 124	
1,2-Dichloropropane	0.800	0.765		mg/Kg		96	76 - 161	
Dibromomethane	0.800	0.750		mg/Kg		94	78 - 126	
Bromodichloromethane	0.800	0.814		mg/Kg		102	58 - 133	
cis-1,3-Dichloropropene	0.800	0.837		mg/Kg		105	69 - 129	
4-Methyl-2-pentanone (MIBK)	3.20	3.17		mg/Kg		99	45 - 145	
Toluene	0.800	0.743		mg/Kg		93	75 - 126	
trans-1,3-Dichloropropene	0.800	0.890		mg/Kg		111	72 - 129	
1,1,2-Trichloroethane	0.800	0.755		mg/Kg		94	77 - 124	
Tetrachloroethene	0.800	0.903		mg/Kg		113	56 - 155	
1,3-Dichloropropane	0.800	0.755		mg/Kg		94	77 - 123	
2-Hexanone	3.20	3.22		mg/Kg		101	45 - 145	
Dibromochloromethane	0.800	0.833		mg/Kg		104	42 _ 129	
1,2-Dibromoethane	0.800	0.772		mg/Kg		97	69 - 126	
Chlorobenzene	0.800	0.749		mg/Kg		94	75 - 120	
1,1,1,2-Tetrachloroethane	0.800	0.835		mg/Kg		104	72 - 123	
Ethylbenzene	0.800	0.785		mg/Kg		98	78 - 126	

Spike

LCS LCS

TestAmerica Job ID: 580-49123-1

Client: URS Corporation Project/Site: Crown, Cork & Seal

SDG: OR

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-187513/2-A

Matrix: Solid

Analysis Batch: 187992

Client Sample ID: Lab Control Sample

Prep Type: Total/NA Prep Batch: 187513

	Opike	LUG	LUU				/orcec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
m,p-Xylene	0.800	0.831		mg/Kg		104	78 - 126	
o-Xylene	0.800	0.792		mg/Kg		99	77 - 127	
Styrene	0.800	0.866		mg/Kg		108	79 ₋ 127	
Bromoform	0.800	0.751		mg/Kg		94	50 - 124	
Isopropylbenzene	0.800	0.834		mg/Kg		104	79 ₋ 127	
Bromobenzene	0.800	0.785		mg/Kg		98	80 - 120	
1,1,2,2-Tetrachloroethane	0.800	0.784		mg/Kg		98	73 - 125	
1,2,3-Trichloropropane	0.800	0.740		mg/Kg		92	77 - 123	
N-Propylbenzene	0.800	0.828		mg/Kg		104	81 - 127	
2-Chlorotoluene	0.800	0.828		mg/Kg		104	79 - 122	
4-Chlorotoluene	0.800	0.812		mg/Kg		101	80 - 122	
tert-Butylbenzene	0.800	0.834		mg/Kg		104	71 - 136	
1,2,4-Trimethylbenzene	0.800	0.814		mg/Kg		102	79 - 124	
sec-Butylbenzene	0.800	0.840		mg/Kg		105	78 - 128	
p-Isopropyltoluene	0.800	0.767		mg/Kg		96	78 - 126	
1,3-Dichlorobenzene	0.800	0.808		mg/Kg		101	79 - 119	
1,4-Dichlorobenzene	0.800	0.755		mg/Kg		94	79 - 117	
n-Butylbenzene	0.800	0.827		mg/Kg		103	78 - 128	
1,2-Dichlorobenzene	0.800	0.820		mg/Kg		102	79 - 117	
1,2-Dibromo-3-Chloropropane	0.800	0.802		mg/Kg		100	53 - 132	
1,2,4-Trichlorobenzene	0.800	0.826		mg/Kg		103	61 - 130	
Hexachlorobutadiene	0.800	0.852		mg/Kg		107	68 - 134	
Naphthalene	0.800	0.877		mg/Kg		110	14 - 170	
1,2,3-Trichlorobenzene	0.800	0.813		mg/Kg		102	61 - 130	
1,3,5-Trimethylbenzene	0.800	0.826		mg/Kg		103	80 - 125	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)			80 - 120
1,2-Dichloroethane-d4 (Surr)	99		71 - 136
4-Bromofluorobenzene (Surr)	99		70 - 120
Dibromofluoromethane (Surr)	99		75 132

Lab Sample ID: 580-49123-7 MS

Matrix: Solid

Analysis Batch: 187992

Client Sample ID: OF-2 Overflow Catch Basin Prep Type: Total/NA

Prep Batch: 187513

Allarysis Datoll. 101332									i icp bat	CII. 107010
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Dichlorodifluoromethane	ND		0.990	0.594		mg/Kg	₽	60	35 - 135	
Chloromethane	ND		0.990	0.816		mg/Kg	≎	82	50 - 130	
Vinyl chloride	ND		0.990	0.805		mg/Kg	₽	81	60 - 125	
Bromomethane	ND		0.990	0.814		mg/Kg	Φ.	82	30 - 160	
Chloroethane	ND		0.990	0.937		mg/Kg	₽	95	40 - 155	
Trichlorofluoromethane	ND		0.990	0.956		mg/Kg	₽	97	25 - 185	
1,1-Dichloroethene	ND		0.990	0.892		mg/Kg	Φ.	90	65 - 135	
Carbon disulfide	ND		0.990	0.965		mg/Kg	☼	97	45 - 160	
Acetone	ND		3.96	3.63		mg/Kg	₽	92	20 - 160	
Methylene Chloride	ND		0.990	0.935		mg/Kg	\$	94	55 ₋ 140	
Methyl tert-butyl ether	ND		0.990	0.951		mg/Kg	≎	96	59 - 137	

Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-49123-7 MS

Matrix: Solid

Client Sample ID: OF-2	Overflow Catch Basin
	Prep Type: Total/NA
	Pren Batch: 187513

Prep Type: Total/NA
Prep Batch: 187513
Pac

Abayle Result Outliner Added Abay Result Outliner Added Abay Willing Incompanie No 0.930 0.935 mg/Kg 0 94 65.138 1.1-Dichloroethane ND 0.990 0.955 mg/Kg 0 96 65.138 1.1-Dichloroethane ND 0.990 0.885 mg/Kg 0 96 65.138 2.2-Dichloroporpane ND 0.990 0.885 mg/Kg 0 96 65.135 2.2-Bulanore (MEK) ND 0.990 0.925 mg/Kg 0 90 10.12 2.2-Bulanore (MEK) ND 0.990 0.925 mg/Kg 0 90 70.125 2.2-Bulanore (MEK) ND 0.990 0.926 mg/Kg 0 90 70.125 10.125 10.125 10.125 10.125 10.125 10.125 10.125 10.125 10.125 10.125 10.125 10.125 10.125 10.125 10.125 10.125 10.125 10.125 10.125	Batch: 18751
Farses-12-Dichloroethene ND 0.990 0.932 mg/Kg 0 94 65.135 1.1-Dichloroethene ND 0.990 0.955 mg/Kg 0 96 75.125 1.1-Dichloroethene ND 0.990 0.968 mg/Kg 0 98 65.135 1.1-Dichloroethene ND 0.990 0.885 mg/Kg 0 98 65.135 1.1-Dichloroethene ND 0.990 0.885 mg/Kg 0 99 65.125 2.8ulanone (MEK) ND 3.96 3.75 mg/Kg 0 95 30.160 1.1-Dichloroethene ND 0.990 0.925 mg/Kg 0 95 30.160 1.1-Dichloroethene ND 0.990 0.926 mg/Kg 0 98 70.125 1.1-Dichloroethane ND 0.990 0.926 mg/Kg 0 98 70.125 1.1-Dichloroethane ND 0.990 0.970 mg/Kg 0 102 65.135 1.1-Dichloroethane ND 0.990 0.970 mg/Kg 0 102 65.135 1.1-Dichloroethane ND 0.990 0.900 mg/Kg 0 102 70.135 1.1-Dichloroethane ND 0.990 0.900 mg/Kg 0 0 102 70.135 1.1-Dichloroethane ND 0.990 0.990 mg/Kg 0 0 67 75.125 1.1-Dichloroethane ND 0.990 0.990 mg/Kg 0 0 67 75.125 1.1-Dichloroethane ND 0.990 0.990 mg/Kg 0 0 67 75.125 1.1-Dichloroethane ND 0.990 0.955 mg/Kg 0 0 70.125 1.1-Dichloroethane ND 0.990 0.955 mg/Kg 0 0 70.125 1.1-Dichloroethane ND 0.990 0.955 mg/Kg 0 0 70.125 1.1-Dichloroethane ND 0.990 0.955 mg/Kg 0 107 75.125 1.1-Dichloroethane ND 0.990 0.955 mg/Kg 0 107 75.135 1.1-Dichloroethane ND 0.990 0.956 mg/Kg 0 107 75.135 1.1-Dichloroethane ND 0.990 0.956 mg/Kg 0 107 75.135 1.1-Dichloroethane ND 0.990 0.978 mg/Kg 0 107 75.135 1.1-Dichloroethane ND 0.990 0.908 mg/Kg 0 107 75.135 1.1-Dichloroethane ND 0.990 0.908 mg/Kg 0 107 75.135 1.1-Dichloroethane ND 0.990 0.908	
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2 Butanone (MEK) ND 3.96 3.75 mg/kg 9 5 0.16 Bromochloromethane ND 0.999 0.925 mg/kg 93 70.125 Choloroform ND 0.990 0.926 mg/kg 94 70.135 1,1,1-Trichloroethane ND 0.990 0.970 mg/kg 98 70.135 Carbon tetrachloride ND 0.990 1.01 mg/kg 102 65.135 Benzene ND 0.990 0.941 mg/kg 92 70.135 Benzene ND 0.990 0.991 mg/kg 92 70.135 Benzene ND 0.990 0.995 mg/kg 92 70.125 1,2-Dichloropropane ND 0.990 0.995 mg/kg 92 70.135 1,2-Dichloropropane ND 0.990 0.995 mg/kg 96 75.130 1,2-Dichloropropane ND 0.990 0.995 mg/kg 90 70.130 <	
Bromochloromethane ND	
Chloroform ND 0.990 0.926 mg/Kg 0 94 70.125	
1,1,1-Trichloroethane ND 0.990 0.970 mg/Kg 9 70.135 Carbon tetrachloride ND 0.990 1.01 mg/Kg 9 102 65.135 1,1-Dichloropropene ND 0.990 0.991 1.01 mg/Kg 9 102 70.135 Benzene ND 0.990 0.991 mg/Kg 95 75.125 1,2-Dichloropropane ND 0.990 0.995 mg/Kg 95 75.125 1,2-Dichloropropane ND 0.990 0.995 mg/Kg 95 70.120 Dibromomethane ND 0.990 0.995 mg/Kg 96 75.135 Bromodichloromethane ND 0.990 0.955 mg/Kg 96 75.130 Bromodichloromethane ND 0.990 0.955 mg/Kg 99 70.130 Erromodichloromethane ND 0.990 0.958 mg/Kg 90 70.130 4-Methyl-2-pentanone (MilBK) ND 0.990	
Carbon tetrachloride ND 0.990 1.01 mg/kg 0 1.02 65.135 1.1-Dichloropropene ND 0.990 0.941 mg/kg 0 102 70.135 Benzene ND 0.990 0.991 mg/kg 0 95 75.125 1.2-Dichloroethane ND 0.990 0.995 mg/kg 0 95 70.135 Trichloroethane ND 0.990 0.955 mg/kg 0 96 75.125 L2-Dichloropropane ND 0.990 0.955 mg/kg 0 96 75.120 Dibromomethane ND 0.990 0.978 mg/kg 0 99 70.130 Bromodichloromethane ND 0.990 0.907 mg/kg 0 90 70.125 4-Methyl-2-pentanone (MIBK) ND 0.990 0.907 mg/kg 0 106 70.125 4-Methyl-2-pentanone (MIBK) ND 0.990 0.907 mg/kg 0 70.125 </td <td></td>	
1,1-Dichloropropene	
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1,4-Dichlorobenzene ND 0.990 0.927 mg/Kg 4 94 70 - 125	
n-Butylbenzene ND 0.990 1.01 mg/Kg 102 65 - 140	
1,2-Dichlorobenzene ND 0.990 0.984 mg/Kg 99 75 - 120	

TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal SDG: OR

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-49123-7 MS

Lab Sample ID: 580-49123-7 MSD

Matrix: Solid

Matrix: Solid

Analysis Batch: 187992

Client Sample ID: OF-2 Overflow Catch Basin **Prep Type: Total/NA**

Prep Batch: 187513

-	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
1,2-Dibromo-3-Chloropropane	ND		0.990	1.03		mg/Kg	₩	104	40 - 135
1,2,4-Trichlorobenzene	0.0083	J	0.990	0.985		mg/Kg	₩.	99	65 - 130
Hexachlorobutadiene	ND		0.990	0.974		mg/Kg	₩	98	55 - 140
Naphthalene	0.026	J	0.990	1.17		mg/Kg	₩	115	40 - 125
1,2,3-Trichlorobenzene	0.015	J	0.990	1.03		mg/Kg	₩	102	60 - 135
1,3,5-Trimethylbenzene	ND		0.990	1.02		mg/Kg	₽	103	65 - 135

MS MS

Surrogate	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)	102		80 - 120
1,2-Dichloroethane-d4 (Surr)	100		71 - 136
4-Bromofluorobenzene (Surr)	99		70 - 120
Dibromofluoromethane (Surr)	99		75 - 132

Client Sample ID: OF-2 Overflow Catch Basin

Prep Type: Total/NA

Analysis Batch: 187992									Prep I	Batch: 1	87513
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Dichlorodifluoromethane	ND		0.990	0.593		mg/Kg	\	60	35 - 135	0	30
Chloromethane	ND		0.990	0.824		mg/Kg	₩	83	50 - 130	1	30
Vinyl chloride	ND		0.990	0.913		mg/Kg	₩	92	60 - 125	13	30
Bromomethane	ND		0.990	0.847		mg/Kg	₽	86	30 - 160	4	30
Chloroethane	ND		0.990	0.938		mg/Kg	₩	95	40 - 155	0	30
Trichlorofluoromethane	ND		0.990	0.967		mg/Kg	₩	98	25 - 185	1	30
1,1-Dichloroethene	ND		0.990	0.902		mg/Kg	₩	91	65 - 135	1	30
Carbon disulfide	ND		0.990	1.00		mg/Kg	₩	101	45 - 160	4	30
Acetone	ND		3.96	3.03		mg/Kg	₩	77	20 - 160	18	30
Methylene Chloride	ND		0.990	0.969		mg/Kg	*	98	55 - 140	4	30
Methyl tert-butyl ether	ND		0.990	0.923		mg/Kg	₩	93	59 - 137	3	30
trans-1,2-Dichloroethene	ND		0.990	0.913		mg/Kg	₩	92	65 - 135	2	30
1,1-Dichloroethane	ND		0.990	0.938		mg/Kg	₩	95	75 - 125	2	30
2,2-Dichloropropane	ND		0.990	0.962		mg/Kg	₩	97	65 - 135	0	30
cis-1,2-Dichloroethene	ND		0.990	0.879		mg/Kg	₩	89	65 - 125	1	30
2-Butanone (MEK)	ND		3.96	3.53		mg/Kg	₩	89	30 - 160	6	30
Bromochloromethane	ND		0.990	0.901		mg/Kg	₩	91	70 - 125	3	30
Chloroform	ND		0.990	0.939		mg/Kg	₩	95	70 - 125	1	30
1,1,1-Trichloroethane	ND		0.990	0.967		mg/Kg	₩	98	70 - 135	0	30
Carbon tetrachloride	ND		0.990	1.02		mg/Kg	₩	103	65 - 135	1	30
1,1-Dichloropropene	ND		0.990	1.01		mg/Kg	₩	102	70 - 135	1	30
Benzene	ND		0.990	0.935		mg/Kg	₩	94	75 - 125	1	30
1,2-Dichloroethane	ND		0.990	0.899		mg/Kg	₩	91	70 - 135	1	30
Trichloroethene	ND		0.990	0.967		mg/Kg	₩	98	75 - 125	1	30
1,2-Dichloropropane	ND		0.990	0.936		mg/Kg	₩.	95	70 - 120	1	30
Dibromomethane	ND		0.990	0.946		mg/Kg	₩	96	75 - 130	1	30
Bromodichloromethane	ND		0.990	1.00		mg/Kg	₩	101	70 - 130	2	30
cis-1,3-Dichloropropene	ND		0.990	1.02		mg/Kg	₩.	103	70 - 125	2	30
4-Methyl-2-pentanone (MIBK)	ND		3.96	3.94		mg/Kg	₩	100	45 - 145	7	30
Toluene	ND		0.990	0.908		mg/Kg	₽	92	70 - 125	0	30

Client: URS Corporation

Project/Site: Crown, Cork & Seal SDG: OR

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 580-49123-7 MSD

Matrix: Solid

Analysis Batch: 187992

Client Sample ID: OF-2 Overflow Catch Basin Prep Type: Total/NA

TestAmerica Job ID: 580-49123-1

Prep Batch: 187513

Ameliate	•	Sample	Spike	MSD		11		0/ 🗖	%Rec.	DDD	RPD
Analyte trans-1,3-Dichloropropene	ND	Qualifier	0.990 —	1.07	Qualifier	Mg/Kg	— D	%Rec 108	65 ₋ 125	RPD 2	Limit 30
1.1.2-Trichloroethane			0.990					93	60 - 125	4	30
Tetrachloroethene	ND ND		0.990	0.921 1.38		mg/Kg	₩	93 139	65 ₋ 140	21	30
						mg/Kg					
1,3-Dichloropropane	ND		0.990	0.908		mg/Kg	₩	92	75 ₋ 125	3	30
2-Hexanone	ND		3.96	3.93		mg/Kg		99	45 - 145	9	30
Dibromochloromethane	ND.		0.990	1.01		mg/Kg	.	102	65 - 130		30
1,2-Dibromoethane	ND		0.990	0.952		mg/Kg		96	70 - 125	3	30
Chlorobenzene	ND		0.990	0.916		mg/Kg	₩	93	75 - 125	1	30
1,1,1,2-Tetrachloroethane	ND		0.990	1.02		mg/Kg		103	75 - 125	0	30
Ethylbenzene	ND		0.990	0.944		mg/Kg	₽	95	75 ₋ 125	0	30
m,p-Xylene	ND		0.990	1.01		mg/Kg	#	102	80 - 125	0	30
o-Xylene	ND		0.990	0.958		mg/Kg	#	97	75 - 125	1	30
Styrene	ND		0.990	1.06		mg/Kg	☼	107	75 - 125	0	30
Bromoform	ND		0.990	0.932		mg/Kg	₽	94	55 - 135	3	30
Isopropylbenzene	ND		0.990	0.997		mg/Kg	₽	101	75 - 130	1	30
Bromobenzene	ND		0.990	0.988		mg/Kg	₩	100	65 - 120	1	30
1,1,2,2-Tetrachloroethane	ND		0.990	0.985		mg/Kg	₽	99	55 - 130	3	30
1,2,3-Trichloropropane	ND		0.990	0.925		mg/Kg	₽	93	65 - 130	6	30
N-Propylbenzene	ND		0.990	1.03		mg/Kg	₽	104	65 - 135	1	30
2-Chlorotoluene	ND		0.990	1.04		mg/Kg	₽	105	70 - 130	2	30
4-Chlorotoluene	ND		0.990	1.02		mg/Kg	₩	103	75 - 125	1	30
tert-Butylbenzene	ND		0.990	1.04		mg/Kg	\$	105	65 - 130	1	30
1,2,4-Trimethylbenzene	ND		0.990	0.998		mg/Kg	₽	101	65 - 135	0	30
sec-Butylbenzene	ND		0.990	1.02		mg/Kg	₽	103	65 - 130	0	30
p-Isopropyltoluene	0.0079	J	0.990	0.937		mg/Kg	₽	94	75 - 135	1	30
1,3-Dichlorobenzene	ND		0.990	0.993		mg/Kg	☼	100	70 - 125	3	30
1,4-Dichlorobenzene	ND		0.990	0.920		mg/Kg	₽	93	70 - 125	1	30
n-Butylbenzene	ND		0.990	1.01		mg/Kg	φ.	102	65 - 140	0	30
1,2-Dichlorobenzene	ND		0.990	1.01		mg/Kg	₽	102	75 ₋ 120	3	30
1,2-Dibromo-3-Chloropropane	ND		0.990	1.08		mg/Kg	₽	109	40 - 135	4	30
1,2,4-Trichlorobenzene	0.0083	J	0.990	1.02		mg/Kg	₩.	102	65 - 130	3	30
Hexachlorobutadiene	ND		0.990	0.990		mg/Kg	₽	100	55 ₋ 140	2	30
Naphthalene	0.026	J	0.990	1.25		mg/Kg	₩	124	40 - 125	7	30
1,2,3-Trichlorobenzene	0.015	J	0.990	1.12		mg/Kg		112	60 - 135	9	30
1,3,5-Trimethylbenzene	ND		0.990	1.02		mg/Kg	₩	103	65 - 135	0	30

SD	MSD

Surrogate	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 120
1,2-Dichloroethane-d4 (Surr)	95		71 - 136
4-Bromofluorobenzene (Surr)	98		70 - 120
Dibromofluoromethane (Surr)	97		75 - 132

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Client: URS Corporation

TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal SDG: OR

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

MR MR

Lab Sample ID: MB 580-187566/1-A

Matrix: Solid

Analysis Batch: 187673

Client Sample ID: Method Blank
Prep Type: Total/NA
Pron Batch: 187566

	MB	MR						
Analyte	Result	Qualifier RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND	0.010	0.0020	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
2-Methylnaphthalene	ND	0.0050	0.0012	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
1-Methylnaphthalene	ND	0.010	0.0015	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
Acenaphthylene	ND	0.0050	0.00049	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
Acenaphthene	ND	0.0050	0.00077	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
Fluorene	ND	0.0050	0.00063	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
Phenanthrene	ND	0.010	0.0015	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
Anthracene	ND	0.0050	0.00074	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
Fluoranthene	ND	0.0050	0.00087	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
Pyrene	ND	0.010	0.0015	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
Benzo[a]anthracene	ND	0.010	0.0015	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
Chrysene	ND	0.0050	0.00089	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
Benzo[b]fluoranthene	ND	0.010	0.0015	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
Benzo[k]fluoranthene	ND	0.010	0.0015	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
Benzo[a]pyrene	ND	0.0050	0.00093	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
Indeno[1,2,3-cd]pyrene	ND	0.0050	0.00092	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
Dibenz(a,h)anthracene	ND	0.0050	0.00090	mg/Kg		04/23/15 09:00	04/24/15 09:52	1
Benzo[g,h,i]perylene	ND	0.010	0.0015	mg/Kg		04/23/15 09:00	04/24/15 09:52	1

MB MB Surrogate %Recovery Qualifier Limits Prepared Analyzed 04/23/15 09:00 Terphenyl-d14 42 - 151 04/24/15 09:52 96

Lab Sample ID: LCS 580-187566/2-A

Matrix: Solid

Analysis Batch: 187673

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 187566

Analysis Batch: 187673						•		itch: 187566	
	Spike	LCS	LCS				%Rec.		
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Naphthalene	1.00	0.838		mg/Kg		84	62 - 112		
2-Methylnaphthalene	1.00	0.811		mg/Kg		81	64 - 119		
1-Methylnaphthalene	1.00	0.877		mg/Kg		88	62 _ 118		
Acenaphthylene	1.00	0.833		mg/Kg		83	68 - 120		
Acenaphthene	1.00	0.833		mg/Kg		83	68 _ 116		
Fluorene	1.00	0.964		mg/Kg		96	70 _ 121		
Phenanthrene	1.00	0.774		mg/Kg		77	73 - 106		
Anthracene	1.00	0.884		mg/Kg		88	73 ₋ 116		
Fluoranthene	1.00	0.879		mg/Kg		88	73 _ 125		
Pyrene	1.00	0.826		mg/Kg		83	70 - 120		
Benzo[a]anthracene	1.00	0.892		mg/Kg		89	76 ₋ 119		
Chrysene	1.00	0.856		mg/Kg		86	75 - 114		
Benzo[b]fluoranthene	1.00	0.868		mg/Kg		87	63 _ 132		
Benzo[k]fluoranthene	1.00	0.917		mg/Kg		92	63 _ 119		
Benzo[a]pyrene	1.00	0.903		mg/Kg		90	72 ₋ 117		
Indeno[1,2,3-cd]pyrene	1.00	0.850		mg/Kg		85	56 _ 127		
Dibenz(a,h)anthracene	1.00	0.898		mg/Kg		90	56 - 134		
Benzo[g,h,i]perylene	1.00	0.843		mg/Kg		84	55 ₋ 139		

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 580-187566/2-A

Lab Sample ID: LCSD 580-187566/3-A

Matrix: Solid

Analysis Batch: 187673

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 187566

LCS LCS

Surrogate %Recovery Qualifier Limits Terphenyl-d14 42 - 151 89

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 187566

Matrix: Solid

Analysis Batch: 187673

Analysis batch. 107075							Frep Datch. 10/300			
	Spike	LCSD	LCSD				%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Naphthalene	1.00	0.827		mg/Kg		83	62 - 112	1	26	
2-Methylnaphthalene	1.00	0.808		mg/Kg		81	64 - 119	0	27	
1-Methylnaphthalene	1.00	0.871		mg/Kg		87	62 - 118	1	30	
Acenaphthylene	1.00	0.835		mg/Kg		83	68 - 120	0	28	
Acenaphthene	1.00	0.837		mg/Kg		84	68 - 116	1	27	
Fluorene	1.00	1.01		mg/Kg		101	70 - 121	5	30	
Phenanthrene	1.00	0.762		mg/Kg		76	73 - 106	2	28	
Anthracene	1.00	0.874		mg/Kg		87	73 - 116	1	27	
Fluoranthene	1.00	0.870		mg/Kg		87	73 - 125	1	30	
Pyrene	1.00	0.830		mg/Kg		83	70 - 120	0	30	
Benzo[a]anthracene	1.00	0.884		mg/Kg		88	76 - 119	1	27	
Chrysene	1.00	0.847		mg/Kg		85	75 - 114	1	26	
Benzo[b]fluoranthene	1.00	0.888		mg/Kg		89	63 - 132	2	30	
Benzo[k]fluoranthene	1.00	0.899		mg/Kg		90	63 - 119	2	30	
Benzo[a]pyrene	1.00	0.895		mg/Kg		90	72 - 117	1	30	
Indeno[1,2,3-cd]pyrene	1.00	0.836		mg/Kg		84	56 - 127	2	29	
Dibenz(a,h)anthracene	1.00	0.875		mg/Kg		87	56 - 134	3	30	
Benzo[g,h,i]perylene	1.00	0.814		mg/Kg		81	55 - 139	3	28	

LCSD LCSD

Surrogate %Recovery Qualifier Limits Terphenyl-d14 93 42 - 151

Lab Sample ID: 580-49123-7 MS

Matrix: Solid

Analysis Batch: 187673

Client Sample ID: OF-2 Overflow Catch Basin

Prep Type: Total/NA

Prep Batch: 187566

	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Naphthalene	0.0085	J	1.29	1.04		mg/Kg	<u></u>	80	62 - 112
2-Methylnaphthalene	0.0036	J	1.29	0.976		mg/Kg	₩	75	64 - 119
1-Methylnaphthalene	0.0020	J	1.29	1.09		mg/Kg	₩	84	62 - 118
Acenaphthylene	0.0058	J	1.29	1.03		mg/Kg	₩	79	68 - 120
Acenaphthene	0.025		1.29	1.04		mg/Kg	☼	79	68 - 116
Fluorene	0.015		1.29	1.17		mg/Kg	☼	89	70 - 121
Phenanthrene	0.13	F1	1.29	1.03	F1	mg/Kg	₩	70	73 - 106
Anthracene	0.030		1.29	1.07		mg/Kg	☼	81	73 - 116
Fluoranthene	0.37		1.29	1.36		mg/Kg	₩	77	73 ₋ 125
Pyrene	0.34		1.29	1.28		mg/Kg	₩	73	70 - 120
Benzo[a]anthracene	0.24		1.29	1.29		mg/Kg	☼	82	76 ₋ 119
Chrysene	0.28	F1	1.29	1.22	F1	mg/Kg	☼	73	75 ₋ 114
Benzo[b]fluoranthene	0.38		1.29	1.24		mg/Kg	₩.	67	63 - 132
Benzo[k]fluoranthene	0.12		1.29	1.13		mg/Kg	₩	78	63 - 119
						· -			

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 580-49123-7 MS

Lab Sample ID: 580-49123-7 MSD

Matrix: Solid

Matrix: Solid

Analysis Batch: 187673

Client Sample ID: OF-2 Overflow Catch Basin Prep Type: Total/NA

Prep Batch: 187566

	Sample	Sample	Spike	MS	MS				%Rec.
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzo[a]pyrene	0.33		1.29	1.30		mg/Kg	*	75	72 - 117
Indeno[1,2,3-cd]pyrene	0.27		1.29	1.26		mg/Kg	₽	76	56 - 127
Dibenz(a,h)anthracene	0.057		1.29	1.10		mg/Kg	₩	81	56 - 134
Benzo[g,h,i]perylene	0.24		1.29	1.19		mg/Kg	₩	73	55 - 139

MS MS

%Recovery Qualifier Limits Surrogate Terphenyl-d14 42 - 151 82

Client Sample ID: OF-2 Overflow Catch Basin

Prep Type: Total/NA

Analysis Batch: 187673									Prep I	Batch: 1	87566
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Naphthalene	0.0085	J	1.29	1.07		mg/Kg	<u> </u>	82	62 - 112	3	26
2-Methylnaphthalene	0.0036	J	1.29	1.05		mg/Kg	₽	81	64 - 119	7	27
1-Methylnaphthalene	0.0020	J	1.29	1.15		mg/Kg	₽	88	62 - 118	5	30
Acenaphthylene	0.0058	J	1.29	1.10		mg/Kg		84	68 - 120	7	28
Acenaphthene	0.025		1.29	1.12		mg/Kg	₽	85	68 - 116	8	27
Fluorene	0.015		1.29	1.29		mg/Kg	₽	98	70 - 121	10	31
Phenanthrene	0.13	F1	1.29	1.08		mg/Kg	\$	73	73 - 106	5	28
Anthracene	0.030		1.29	1.18		mg/Kg	₽	89	73 - 116	10	27
Fluoranthene	0.37		1.29	1.45		mg/Kg	₽	83	73 - 125	6	36
Pyrene	0.34		1.29	1.36		mg/Kg	₽	79	70 - 120	7	31
Benzo[a]anthracene	0.24		1.29	1.32		mg/Kg	₽	84	76 - 119	2	27
Chrysene	0.28	F1	1.29	1.34		mg/Kg	₽	82	75 - 114	9	26
Benzo[b]fluoranthene	0.38		1.29	1.32		mg/Kg	Φ.	72	63 - 132	6	31
Benzo[k]fluoranthene	0.12		1.29	1.17		mg/Kg	₽	81	63 - 119	3	31
Benzo[a]pyrene	0.33		1.29	1.36		mg/Kg	☼	80	72 - 117	5	30
Indeno[1,2,3-cd]pyrene	0.27		1.29	1.37		mg/Kg	₽	85	56 - 127	9	29
Dibenz(a,h)anthracene	0.057		1.29	1.15		mg/Kg	☼	84	56 - 134	5	30
Benzo[g,h,i]perylene	0.24		1.29	1.23		mg/Kg	⇔	76	55 ₋ 139	3	28

MSD MSD

Surrogate %Recovery Qualifier Limits Terphenyl-d14 42 - 151 89

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-187551/1-A

Matrix: Water

Analysis Batch: 187827

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 187551

	MB	МВ							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		3.0	1.2	ug/L		04/22/15 19:16	04/26/15 14:35	1
Butyl benzyl phthalate	ND		0.60	0.20	ug/L		04/22/15 19:16	04/26/15 14:35	1
Diethyl phthalate	ND		0.40	0.10	ug/L		04/22/15 19:16	04/26/15 14:35	1
Dimethyl phthalate	ND		0.40	0.10	ug/L		04/22/15 19:16	04/26/15 14:35	1
Di-n-butyl phthalate	ND		0.40	0.13	ug/L		04/22/15 19:16	04/26/15 14:35	1

TestAmerica Seattle

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Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 580-187551/1-A

Matrix: Water

Analysis Batch: 187827

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 187551

Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate	ND	0.40	0.18 ug/L		04/22/15 19:16	04/26/15 14:35	1

MB MB

	MB	МВ				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	69		44 - 125	04/22/15 19:16	04/26/15 14:35	1
2-Fluorobiphenyl	75		50 - 120	04/22/15 19:16	04/26/15 14:35	1
2-Fluorophenol (Surr)	72		30 - 134	04/22/15 19:16	04/26/15 14:35	1
Nitrobenzene-d5 (Surr)	86		59 - 120	04/22/15 19:16	04/26/15 14:35	1
Phenol-d5 (Surr)	80		52 - 120	04/22/15 19:16	04/26/15 14:35	1
Terphenyl-d14 (Surr)	94		64 - 150	04/22/15 19:16	04/26/15 14:35	1
—						

Client Sample ID: Lab Control Sample

Matrix: Water

Analysis Batch: 187816

Lab Sample ID: LCS 580-187551/2-A

Prep Type: Total/NA **Prep Batch: 187551**

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Bis(2-ethylhexyl) phthalate	2.00	4.33	*	ug/L		217	70 - 185	
Butyl benzyl phthalate	2.00	2.59	٨	ug/L		130	60 - 167	
Diethyl phthalate	2.00	2.19		ug/L		110	60 - 150	
Dimethyl phthalate	2.00	1.93		ug/L		96	65 - 155	
Di-n-butyl phthalate	2.00	2.36		ug/L		118	55 - 167	
Di-n-octyl phthalate	2.00	2.71		ug/L		135	55 - 150	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol (Surr)	101		44 - 125
2-Fluorobiphenyl	81		50 - 120
2-Fluorophenol (Surr)	81		30 - 134
Nitrobenzene-d5 (Surr)	93		59 - 120
Phenol-d5 (Surr)	93		52 - 120
Terphenyl-d14 (Surr)	96		64 - 150

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 187551

Matrix: Water Analysis Batch: 187816

Lab Sample ID: LCSD 580-187551/3-A

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Bis(2-ethylhexyl) phthalate	2.00	2.46	J *	ug/L		123	70 - 185	55	20
Butyl benzyl phthalate	2.00	2.63	٨	ug/L		131	60 - 167	1	20
Diethyl phthalate	2.00	2.10		ug/L		105	60 - 150	4	20
Dimethyl phthalate	2.00	1.94		ug/L		97	65 - 155	1	20
Di-n-butyl phthalate	2.00	2.44		ug/L		122	55 - 167	4	20
Di-n-octyl phthalate	2.00	2.57		ua/L		129	55 - 150	5	20

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol (Surr)	103		44 - 125
2-Fluorobiphenyl	79		50 - 120
2-Fluorophenol (Surr)	76		30 - 134
Nitrobenzene-d5 (Surr)	91		59 - 120

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-187551/3-A

Lab Sample ID: MB 580-187566/1-A

Matrix: Water

Matrix: Solid

Analysis Batch: 187816

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Prep Batch: 187551

LCSD LCSD

 Surrogate
 %Recovery
 Qualifier
 Limits

 Phenol-d5 (Surr)
 85
 52 - 120

 Terphenyl-d14 (Surr)
 96
 64 - 150

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 187566

Analysis Batch: 187679

мв мв

Result Qualifier RL MDL Unit Prepared Analyte Analyzed Dil Fac ND 0.60 0.050 mg/Kg Bis(2-ethylhexyl) phthalate 04/23/15 09:00 04/24/15 09:19 Butyl benzyl phthalate ND 0.20 0.050 mg/Kg 04/23/15 09:00 04/24/15 09:19 Diethyl phthalate 0.118 0.20 0.015 mg/Kg 04/23/15 09:00 04/24/15 09:19 Dimethyl phthalate ND 0.10 0.0050 mg/Kg 04/23/15 09:00 04/24/15 09:19 Di-n-butyl phthalate ND 0.50 0.050 mg/Kg 04/23/15 09:00 04/24/15 09:19 Di-n-octyl phthalate ND 0.50 0.0050 mg/Kg 04/23/15 09:00 04/24/15 09:19

мв мв

Surrogate	%Recovery Qu	ualifier Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	56	28 - 143	04/23/15 09:00	04/24/15 09:19	1
2-Fluorobiphenyl	92	42 - 140	04/23/15 09:00	04/24/15 09:19	1
2-Fluorophenol (Surr)	96	36 - 145	04/23/15 09:00	04/24/15 09:19	1
Nitrobenzene-d5 (Surr)	93	38 - 141	04/23/15 09:00	04/24/15 09:19	1
Phenol-d5 (Surr)	97	38 - 149	04/23/15 09:00	04/24/15 09:19	1
Terphenyl-d14 (Surr)	101	42 - 151	04/23/15 09:00	04/24/15 09:19	1

Lab Sample ID: LCS 580-187566/2-A

Matrix: Solid

Analysis Batch: 187679

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 187566

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Bis(2-ethylhexyl) phthalate	1.00	0.777		mg/Kg		78	62 - 144	
Butyl benzyl phthalate	1.00	0.924		mg/Kg		92	69 - 142	
Diethyl phthalate	1.00	0.882		mg/Kg		88	73 - 116	
Dimethyl phthalate	1.00	0.876		mg/Kg		88	78 - 117	
Di-n-butyl phthalate	1.00	0.819		mg/Kg		82	66 - 140	
Di-n-octyl phthalate	1.00	0.809		mg/Kg		81	65 - 141	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol (Surr)	85		28 - 143
2-Fluorobiphenyl	83		42 - 140
2-Fluorophenol (Surr)	97		36 - 145
Nitrobenzene-d5 (Surr)	92		38 - 141
Phenol-d5 (Surr)	100		38 - 149
Terphenyl-d14 (Surr)	91		42 - 151

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-187566/3-A

Matrix: Solid

Analysis Batch: 187679

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA
Prep Batch: 187566

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Bis(2-ethylhexyl) phthalate	1.00	0.779		mg/Kg		78	62 - 144	0	30
Butyl benzyl phthalate	1.00	0.968		mg/Kg		97	69 - 142	5	30
Diethyl phthalate	1.00	0.914		mg/Kg		91	73 - 116	4	26
Dimethyl phthalate	1.00	0.852		mg/Kg		85	78 - 117	3	30
Di-n-butyl phthalate	1.00	0.846		mg/Kg		85	66 - 140	3	30
Di-n-octyl phthalate	1.00	0.788		mg/Kg		79	65 - 141	3	30

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol (Surr)	92		28 - 143
2-Fluorobiphenyl	88		42 - 140
2-Fluorophenol (Surr)	92		36 - 145
Nitrobenzene-d5 (Surr)	92		38 - 141
Phenol-d5 (Surr)	92		38 - 149
Terphenyl-d14 (Surr)	92		42 - 151

Client Sample ID: OF-2 Overflow Catch Basin

Prep Type: Total/NA

Prep Batch: 187566

Lab Sample ID: 580-49123-7 MS Matrix: Solid

Lab Sample ID: 580-49123-7 MSD

Matrix: Solid

Analysis Batch: 187679

	Sample Sam	ple Spike	MS	MS				%Rec.	
Analyte	Result Qual	lifier Added	Result	Qualifier	Unit	D	%Rec	Limits	
Bis(2-ethylhexyl) phthalate	ND	1.29	1.15		mg/Kg	*	90	62 - 144	
Butyl benzyl phthalate	ND	1.29	1.47		mg/Kg	₽	114	69 - 142	
Diethyl phthalate	ND	1.29	1.22		mg/Kg	₩	95	73 - 116	
Dimethyl phthalate	ND	1.29	1.18		mg/Kg	*	92	78 - 117	
Di-n-butyl phthalate	ND	1.29	1.23		mg/Kg	₩	95	66 - 140	
Di-n-octyl phthalate	0.071 J	1.29	1.24		mg/Kg	₩	91	65 - 141	

MS MS

Surrogate	%Recovery	Qualifier	Limits		
2,4,6-Tribromophenol (Surr)	91		28 - 143		
2-Fluorobiphenyl	85		42 - 140		
2-Fluorophenol (Surr)	90		36 - 145		
Nitrobenzene-d5 (Surr)	87		38 - 141		
Phenol-d5 (Surr)	97		38 - 149		
Terphenyl-d14 (Surr)	90		42 - 151		

Client Sample ID: OF-2 Overflow Catch Basin

Prep Type: Total/NA

Analysis Batch: 187679									Prep Batch: 187566			
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Bis(2-ethylhexyl) phthalate	ND		1.29	1.33		mg/Kg	<u></u>	102	62 - 144	14	60	
Butyl benzyl phthalate	ND		1.29	1.54		mg/Kg	₩	119	69 - 142	4	60	
Diethyl phthalate	ND		1.29	1.27		mg/Kg	₩	98	73 - 116	4	26	
Dimethyl phthalate	ND		1.29	1.17		mg/Kg	₩	90	78 - 117	1	60	
Di-n-butyl phthalate	ND		1.29	1.28		mg/Kg	₩	99	66 - 140	4	60	
Di-n-octyl phthalate	0.071	J	1.29	1.40		mg/Kg	₩	103	65 - 141	12	31	

TestAmerica Job ID: 580-49123-1

SDG: OR

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

MSD MSD

Lab Sample ID: 580-49123-7 MSD

Matrix: Solid

Analysis Batch: 187679

Client Sample ID: OF-2 Overflow Catch Basin

Prep Type: Total/NA

Prep Batch: 187566

	MISD	INISD	
Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol (Surr)	95		28 - 143
2-Fluorobiphenyl	88		42 - 140
2-Fluorophenol (Surr)	97		36 - 145
Nitrobenzene-d5 (Surr)	95		38 - 141
Phenol-d5 (Surr)	102		38 - 149
Terphenyl-d14 (Surr)	96		42 - 151

Client Sample ID: Method Blank Lab Sample ID: MB 580-187889/1-A

Matrix: Water

Analysis Batch: 188212

Prep Type: Total/NA

Prep Batch: 187889

MB MB

102

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		3.0	1.2	ug/L		04/27/15 12:44	04/30/15 09:32	1
Butyl benzyl phthalate	ND		0.60	0.20	ug/L		04/27/15 12:44	04/30/15 09:32	1
Diethyl phthalate	0.151	J	0.40	0.10	ug/L		04/27/15 12:44	04/30/15 09:32	1
Dimethyl phthalate	ND		0.40	0.10	ug/L		04/27/15 12:44	04/30/15 09:32	1
Di-n-butyl phthalate	ND		0.40	0.13	ug/L		04/27/15 12:44	04/30/15 09:32	1
Di-n-octyl phthalate	ND		0.40	0.18	ug/L		04/27/15 12:44	04/30/15 09:32	1

	MB	MB				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	90		44 - 125	04/27/15 12:44	04/30/15 09:32	1
2-Fluorobiphenyl	89		50 - 120	04/27/15 12:44	04/30/15 09:32	1
2-Fluorophenol (Surr)	88		30 - 134	04/27/15 12:44	04/30/15 09:32	1
Nitrobenzene-d5 (Surr)	99		59 - 120	04/27/15 12:44	04/30/15 09:32	1
Phenol-d5 (Surr)	97		52 ₋ 120	04/27/15 12:44	04/30/15 09:32	1

64 - 150

Lab Sample ID: LCS 580-187889/2-A

Matrix: Water

Terphenyl-d14 (Surr)

Analysis Batch: 188212

Client Sample ID: Lab Control Sample

04/27/15 12:44

04/30/15 09:32

Prep Type: Total/NA

Prep Batch: 187889

	Spike	LCS	LCS			%Rec.	
Analyte	Added	Result	Qualifier	Unit	D %Rec	Limits	
Bis(2-ethylhexyl) phthalate	2.00	2.15	J	ug/L	108	70 - 185	
Butyl benzyl phthalate	2.00	2.28		ug/L	114	60 - 167	
Diethyl phthalate	2.00	2.14		ug/L	107	60 - 150	
Dimethyl phthalate	2.00	1.97		ug/L	99	65 - 155	
Di-n-butyl phthalate	2.00	1.96		ug/L	98	55 - 167	
Di-n-octyl phthalate	2.00	1.93		ug/L	97	55 ₋ 150	

LCS	LCS	
%Recovery	Qualifier	Limits
98		44 - 125
79		50 ₋ 120
60		30 - 134
84		59 - 120
75		52 ₋ 120
96		64 - 150
	%Recovery 98 79 60 84 75	98 79 60 84 75

TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal SDG: OR

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-187889/3-A

Matrix: Water

Analysis Batch: 188212

Client Sample ID: Lab	Control Sample Dup
	Prep Type: Total/NA
	Prep Batch: 187889

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Bis(2-ethylhexyl) phthalate	2.00	1.84	J	ug/L		92	70 - 185	16	20
Butyl benzyl phthalate	2.00	2.20		ug/L		110	60 - 167	4	20
Diethyl phthalate	2.00	1.93		ug/L		97	60 - 150	10	20
Dimethyl phthalate	2.00	1.80		ug/L		90	65 - 155	9	20
Di-n-butyl phthalate	2.00	1.91		ug/L		95	55 - 167	3	20
Di-n-octyl phthalate	2.00	1.87		ug/L		94	55 - 150	3	20

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol (Surr)	91		44 - 125
2-Fluorobiphenyl	76		50 - 120
2-Fluorophenol (Surr)	67		30 - 134
Nitrobenzene-d5 (Surr)	91		59 - 120
Phenol-d5 (Surr)	75		52 - 120
Terphenyl-d14 (Surr)	94		64 - 150

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-187551/1-A Matrix: Water		Client							Sample ID: Method Blank Prep Type: Total/NA			
Analysis Batch: 187818								Prep Batch:				
Analysis Batch. 107010	МВ	МВ						Frep Batch.	107331			
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac			
Naphthalene	ND		0.020	0.0072	ug/L		04/22/15 19:16	04/25/15 14:08	1			
Acenaphthylene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 14:08	1			
Acenaphthene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 14:08	1			
Fluorene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 14:08	1			
Phenanthrene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 14:08	1			
Anthracene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 14:08	1			
Fluoranthene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 14:08	1			
Pyrene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 14:08	1			
Benzo[a]anthracene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 14:08	1			
Chrysene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 14:08	1			
Benzo[a]pyrene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 14:08	1			
Indeno[1,2,3-cd]pyrene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 14:08	1			
Dibenz(a,h)anthracene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 14:08	1			
Benzo[g,h,i]perylene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 14:08	1			
Benzo[b]fluoranthene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 14:08	1			
Benzo[k]fluoranthene	ND		0.020	0.0060	ug/L		04/22/15 19:16	04/25/15 14:08	1			
	МВ	MB										
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac			
Terphenyl-d14	96		64 - 150				04/22/15 19:16	04/25/15 14:08	1			

TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal SDG: OR

100 100

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 580-187551/2-A

Matrix: Water

Analysis Batch: 187818

Client Sample ID: Lab Control Sample

Prep Type: Total/NA **Prep Batch: 187551**

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Naphthalene	2.00	1.67		ug/L		84	56 - 125	
Acenaphthylene	2.00	1.42		ug/L		71	62 - 125	
Acenaphthene	2.00	1.63		ug/L		81	63 - 125	
Fluorene	2.00	1.97		ug/L		98	69 - 125	
Phenanthrene	2.00	1.56		ug/L		78	70 - 125	
Anthracene	2.00	1.47		ug/L		73	50 - 125	
Fluoranthene	2.00	1.87		ug/L		93	70 - 145	
Pyrene	2.00	1.70		ug/L		85	70 - 133	
Benzo[a]anthracene	2.00	1.72		ug/L		86	65 - 125	
Chrysene	2.00	1.81		ug/L		91	70 - 125	
Benzo[a]pyrene	2.00	1.37		ug/L		68	45 - 125	
Indeno[1,2,3-cd]pyrene	2.00	1.73		ug/L		86	70 - 136	
Dibenz(a,h)anthracene	2.00	1.79		ug/L		90	69 - 154	
Benzo[g,h,i]perylene	2.00	1.68		ug/L		84	65 - 153	
Benzo[b]fluoranthene	2.00	1.74		ug/L		87	70 - 129	
Benzo[k]fluoranthene	2.00	1.79		ug/L		89	70 _ 123	

Chiles

LCS LCS

Surrogate %Recovery Qualifier Limits 64 - 150 Terphenyl-d14 94

Lab Sample ID: LCSD 580-187551/3-A

Matrix: Water

Analysis Batch: 187818

Client	Sample	ID:	Lab	Conti	ol S	ample	Dup
				_	_	_	

Prep Type: Total/NA **Prep Batch: 187551**

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Naphthalene	2.00	1.68		ug/L		84	56 - 125	0	20
Acenaphthylene	2.00	1.45		ug/L		73	62 _ 125	2	20
Acenaphthene	2.00	1.64		ug/L		82	63 - 125	1	20
Fluorene	2.00	1.99		ug/L		99	69 - 125	1	20
Phenanthrene	2.00	1.62		ug/L		81	70 - 125	4	20
Anthracene	2.00	1.55		ug/L		77	50 - 125	5	20
Fluoranthene	2.00	1.90		ug/L		95	70 - 145	2	20
Pyrene	2.00	1.72		ug/L		86	70 - 133	1	20
Benzo[a]anthracene	2.00	1.78		ug/L		89	65 - 125	3	20
Chrysene	2.00	1.84		ug/L		92	70 - 125	2	20
Benzo[a]pyrene	2.00	1.45		ug/L		72	45 - 125	5	20
Indeno[1,2,3-cd]pyrene	2.00	1.80		ug/L		90	70 - 136	4	20
Dibenz(a,h)anthracene	2.00	1.85		ug/L		93	69 - 154	3	20
Benzo[g,h,i]perylene	2.00	1.74		ug/L		87	65 - 153	3	20
Benzo[b]fluoranthene	2.00	1.80		ug/L		90	70 - 129	3	20
Benzo[k]fluoranthene	2.00	1.83		ug/L		92	70 - 123	3	20

LCSD LCSD

Surrogate %Recovery Qualifier Limits Terphenyl-d14 94 64 - 150

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-187654/4

Matrix: Water

Analysis Batch: 187654

Client Sample ID: Method Blank

Prep Type: Total/NA

RL Analyte Result Qualifier MDL Unit D Prepared Analyzed Dil Fac 0.050 04/23/15 15:29 Gasoline ND 0.027 mg/L

MB MB

мв мв

Qualifier Analyzed Dil Fac Surrogate %Recovery Prepared 50 - 150 04/23/15 15:29 4-Bromofluorobenzene (Surr) 98 Trifluorotoluene (Surr) 116 50 - 150 04/23/15 15:29

Lab Sample ID: LCS 580-187654/5 Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 187654

LCS LCS %Rec. Spike Analyte Added Result Qualifier Unit %Rec Limits Gasoline 1.00 0.955 mg/L 79 - 110

LCS LCS

%Recovery Qualifier Surrogate Limits 50 - 150 4-Bromofluorobenzene (Surr) 101 101 50 - 150 Trifluorotoluene (Surr)

Lab Sample ID: LCSD 580-187654/6

Matrix: Water

Analysis Batch: 187654

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

LCSD LCSD RPD Spike %Rec. Analyte Added Result Qualifier Unit %Rec RPD Limit Gasoline 1.00 0.968 97 20 mg/L 79 - 110

LCSD LCSD

Surrogate %Recovery Qualifier I imits 4-Bromofluorobenzene (Surr) 100 50 - 150 101 50 - 150 Trifluorotoluene (Surr)

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-187532/1-A

Matrix: Water

Analysis Batch: 187721

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 187532

MB MB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.50	0.045	ug/L		04/22/15 15:24	04/24/15 19:37	1
PCB-1221	ND		0.50	0.062	ug/L		04/22/15 15:24	04/24/15 19:37	1
PCB-1232	ND		0.50	0.041	ug/L		04/22/15 15:24	04/24/15 19:37	1
PCB-1242	ND		0.50	0.041	ug/L		04/22/15 15:24	04/24/15 19:37	1
PCB-1248	ND		0.50	0.071	ug/L		04/22/15 15:24	04/24/15 19:37	1
PCB-1254	ND		0.50	0.044	ug/L		04/22/15 15:24	04/24/15 19:37	1
PCB-1260	ND		0.50	0.039	ug/L		04/22/15 15:24	04/24/15 19:37	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	49		38 - 121	04/22/15 15:24	04/24/15 19:37	1
Tetrachloro-m-xylene	44		26 - 124	04/22/15 15:24	04/24/15 19:37	1

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1 SDG: OR

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 580-187532/2-A

Lab Sample ID: LCSD 580-187532/3-A

Matrix: Water

Analysis Batch: 187721

Client Sample ID: Lab Control Sample

Prep Type: Total/NA **Prep Batch: 187532**

Spike LCS LCS babbA Result Qualifier %Rec Limits Analyte Unit D PCB-1016 25 - 145 1.00 0.909 ug/L 91 PCB-1260 1.00 0.911 ug/L 91 30 - 145

LCS LCS Surrogate %Recovery Qualifier I imits DCB Decachlorobiphenyl 94 38 - 121 83 26 - 124 Tetrachloro-m-xylene

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Matrix: Water Analysis Batch: 187721

Prep Batch: 187532 %Rec. **RPD**

LCSD LCSD Spike Analyte Added Result Qualifier Unit %Rec Limits **RPD** Limit PCB-1016 0.978 1 00 ug/L 98 25 - 145 27 PCB-1260 1.00 0.961 96 30 - 145 22 ug/L

LCSD LCSD Surrogate %Recovery Qualifier Limits DCB Decachlorobiphenyl 103 38 - 121 26 - 124 Tetrachloro-m-xylene 89

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-187563/1-A

Matrix: Solid

Analysis Batch: 187692

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 187563

мв мв Result Qualifier Analyte RL MDL Unit D Analyzed Dil Fac Prepared 25 #2 Diesel (C10-C24) ND 3.6 mg/Kg 04/23/15 08:49 04/24/15 12:28 Motor Oil (>C24-C36) ND 50 9.1 mg/Kg 04/23/15 08:49 04/24/15 12:28 MR MR

Surrogate %Recovery Qualifier Prepared Analyzed Dil Fac 50 - 150 04/23/15 08:49 04/24/15 12:28 o-Terphenyl 94

Lab Sample ID: LCS 580-187563/2-A

Matrix: Solid

Analysis Batch: 187692

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 187563

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits #2 Diesel (C10-C24) 500 418 mg/Kg 84 70 - 125Motor Oil (>C24-C36) 502 438 mg/Kg 87 64 - 127

LCS LCS Surrogate %Recovery Qualifier Limits o-Terphenyl 50 - 150 91

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCSD 580-187563/3-A

Matrix: Solid

Analysis Batch: 187692

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 187563

•	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)	 500	407		mg/Kg		81	70 - 125	3	16
Motor Oil (>C24-C36)	502	428		mg/Kg		85	64 - 127	2	17

LCSD LCSD

%Recovery Qualifier Surrogate I imits o-Terphenyl 88 50 - 150

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 187948

Lab Sample ID: MB 580-187948/1-A

Matrix: Water

Analysis Batch: 187970

мв мв

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	ND		0.11	0.015	mg/L		04/27/15 17:55	04/28/15 09:13	1
Motor Oil (>C24-C36)	ND		0.25	0.0098	mg/L		04/27/15 17:55	04/28/15 09:13	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Anaiyzea	DII Fac
o-Terphenyl	72		50 - 150	04/27/15 17:55	04/28/15 09:13	1

Lab Sample ID: LCS 580-187948/2-A

Matrix: Water

Analysis Batch: 187970

Client Sample ID: Lab Control Sample

Prep Type: Total/NA **Prep Batch: 187948**

	Spike	LCS L	.03			%Rec.	
Analyte	Added	Result Q	ູນualifier U	Init D	%Rec	Limits	
#2 Diesel (C10-C24)	 0.500	0.369	m	ng/L	74	59 - 120	
Motor Oil (>C24-C36)	0.502	0.421	m	ng/L	84	71 - 140	

LCS LCS

Surrogate	%Recovery Qualifier	Limits
o-Terphenyl	87	50 - 150

Lab Sample ID: LCSD 580-187948/3-A

Matrix: Water

Analysis Batch: 187970

Client Sample ID: Lab Control Sample Dup

Prep Batch: 187948

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
#2 Diesel (C10-C24)	 0.500	0.382		mg/L		76	59 - 120	3	27
Motor Oil (>C24-C36)	0.502	0.436		ma/L		87	71 - 140	4	27

LCSD LCSD

Surrogate	%Recovery Qualifi	er Limits
o-Terphenyl	89	50 - 150

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 580-187876/19-A Client Sample ID: Method Blank

Matrix: Solid

Analysis Batch: 187954								Prep Batch:	187876
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.10	0.036	mg/Kg	 _	04/27/15 11:39	04/27/15 16:33	2

TestAmerica Seattle

Prep Type: Total/NA

Prep Type: Total/NA

Client: URS Corporation TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal SDG: OR

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 580-187876/19-A

Matrix: Solid

Analysis Batch: 187954

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 187876

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		0.10	0.016	mg/Kg		04/27/15 11:39	04/27/15 16:33	2
Cadmium	ND		0.040	0.0038	mg/Kg		04/27/15 11:39	04/27/15 16:33	2
Chromium	ND		0.10	0.013	mg/Kg		04/27/15 11:39	04/27/15 16:33	2
Lead	ND		0.10	0.0096	mg/Kg		04/27/15 11:39	04/27/15 16:33	2
Selenium	ND		0.20	0.040	mg/Kg		04/27/15 11:39	04/27/15 16:33	2
Silver	ND		0.040	0.0024	mg/Kg		04/27/15 11:39	04/27/15 16:33	2

Lab Sample ID: LCS 580-187876/20-A Client Sample ID: Lab Control Sample

Matrix: Solid

Analysis Batch: 187954

Prep Type: Total/NA

Prep Batch: 187876

Spike	LCS	LCS				%Rec.	
Added	Result	Qualifier	Unit	D	%Rec	Limits	
200	208		mg/Kg		104	80 - 120	
200	200		mg/Kg		100	80 - 120	
5.00	5.16		mg/Kg		103	80 - 120	
20.0	20.9		mg/Kg		104	80 - 120	
50.0	50.6		mg/Kg		101	80 - 120	
200	208		mg/Kg		104	80 - 120	
30.0	32.3		mg/Kg		108	80 - 120	
	Added 200 200 5.00 20.0 50.0 200	Added Result 200 208 200 200 5.00 5.16 20.0 20.9 50.0 50.6 200 208	Added Result Qualifier 200 208 200 200 5.00 5.16 20.0 20.9 50.0 50.6 200 208	Added Result 200 Qualifier 208 Unit mg/Kg 200 208 mg/Kg 200 200 mg/Kg 5.00 5.16 mg/Kg 20.0 20.9 mg/Kg 50.0 50.6 mg/Kg 200 208 mg/Kg	Added Result Qualifier Unit D 200 208 mg/Kg mg/Kg 200 200 mg/Kg mg/Kg 5.00 5.16 mg/Kg mg/Kg 20.0 20.9 mg/Kg mg/Kg 50.0 50.6 mg/Kg mg/Kg 200 208 mg/Kg	Added Result Qualifier Unit D %Rec 200 208 mg/Kg 104 200 200 mg/Kg 100 5.00 5.16 mg/Kg 103 20.0 20.9 mg/Kg 104 50.0 50.6 mg/Kg 101 200 208 mg/Kg 104	Added Result Qualifier Unit D %Rec Limits 200 208 mg/Kg 104 80 - 120 200 200 mg/Kg 100 80 - 120 5.00 5.16 mg/Kg 103 80 - 120 20.0 20.9 mg/Kg 104 80 - 120 50.0 50.6 mg/Kg 101 80 - 120 200 208 mg/Kg 104 80 - 120

Lab Sample ID: LCSD 580-187876/21-A Client Sample ID: Lab Control Sample Dup

Matrix: Solid

Analysis Batch: 187954

Prep Type: Total/NA

Prep Batch: 187876

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	200	204		mg/Kg		102	80 - 120	2	20
Barium	200	202		mg/Kg		101	80 - 120	1	20
Cadmium	5.00	5.12		mg/Kg		102	80 - 120	1	20
Chromium	20.0	20.7		mg/Kg		103	80 - 120	1	20
Lead	50.0	49.8		mg/Kg		100	80 - 120	2	20
Selenium	200	204		mg/Kg		102	80 - 120	2	20
Silver	30.0	32.1		mg/Kg		107	80 - 120	1	20

Lab Sample ID: MB 580-187794/13-A Client Sample ID: Method Blank **Matrix: Water Prep Type: Total Recoverable**

Analysis Batch: 187838 **Prep Batch: 187794**

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.0050	0.0014	mg/L		04/24/15 18:22	04/25/15 11:12	5
Barium	ND		0.0060	0.00027	mg/L		04/24/15 18:22	04/25/15 11:12	5
Cadmium	ND		0.0020	0.00014	mg/L		04/24/15 18:22	04/25/15 11:12	5
Chromium	ND		0.0020	0.00071	mg/L		04/24/15 18:22	04/25/15 11:12	5
Lead	ND		0.0020	0.00017	mg/L		04/24/15 18:22	04/25/15 11:12	5
Selenium	ND		0.0050	0.0015	mg/L		04/24/15 18:22	04/25/15 11:12	5
Silver	ND		0.0020	0.00015	mg/L		04/24/15 18:22	04/25/15 11:12	5

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 580-187794/14-A

Matrix: Water

Analysis Batch: 187838

Prep Batch: 187794

		Spike	LCS	LCS				%Rec.	
	Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
	Arsenic	4.00	3.94		mg/L		98	80 - 120	
ı	Barium	4.00	3.87		mg/L		97	80 - 120	
	Cadmium	0.100	0.0866		mg/L		87	80 - 120	
I	Chromium	0.400	0.395		mg/L		99	80 - 120	
	Lead	1.00	0.983		mg/L		98	80 - 120	
	Selenium	4.00	4.13		mg/L		103	80 - 120	
ı	Silver	0.600	0.628		mg/L		105	80 - 120	

Lab Sample ID: LCSD 580-187794/15-A

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total Recoverable

Analysis Batch: 187838 Prep Batch: 187794

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	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	4.00	3.94		mg/L		98	80 - 120	0	20
Barium	4.00	3.91		mg/L		98	80 - 120	1	20
Cadmium	0.100	0.0874		mg/L		87	80 - 120	1	20
Chromium	0.400	0.395		mg/L		99	80 - 120	0	20
Lead	1.00	0.991		mg/L		99	80 - 120	1	20
Selenium	4.00	4.15		mg/L		104	80 - 120	0	20
Silver	0.600	0.630		mg/L		105	80 - 120	0	20

Lab Sample ID: 580-49123-1 MS

Matrix: Water

Analysis Batch: 187838

Client Sample ID: MW-3

Prep Type: Total Recoverable

Prep Batch: 187794

•	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Arsenic	ND		4.00	3.95		mg/L		99	80 - 120	
Barium	0.039		4.00	3.85		mg/L		95	80 - 120	
Cadmium	ND		0.100	0.0842		mg/L		84	80 - 120	
Chromium	0.0034		0.400	0.402		mg/L		100	80 - 120	
Lead	0.00019	J	1.00	0.980		mg/L		98	80 - 120	
Selenium	ND		4.00	4.14		mg/L		104	80 - 120	
Silver	ND		0.600	0.611		mg/L		102	80 - 120	

Lab Sample ID: 580-49123-1 MSD

Client Sample ID: MW-3

Matrix: Water

Prep Type: Total Recoverable

Analysis Batch: 187838 Prep Batch: 187794

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Arsenic	ND		4.00	4.03		mg/L		101	80 - 120	2	20
Barium	0.039		4.00	3.95		mg/L		98	80 - 120	3	20
Cadmium	ND		0.100	0.0853		mg/L		85	80 - 120	1	20
Chromium	0.0034		0.400	0.408		mg/L		101	80 - 120	1	20
Lead	0.00019	J	1.00	0.992		mg/L		99	80 - 120	1	20
Selenium	ND		4.00	4.24		mg/L		106	80 - 120	2	20
Silver	ND		0.600	0.623		mg/L		104	80 - 120	2	20

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 580-49123-1 DU **Matrix: Water**

Analysis Batch: 187838

Client Sample ID: MW-3 **Prep Type: Total Recoverable**

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

%Rec.

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 187358

Prep Type: Total/NA

Prep Batch: 187358

Prep Type: Total/NA

Prep Batch: 187358

Prep Type: Total/NA

Prep Batch: 187863

RPD

Prep Batch: 187794

,	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Arsenic	ND		ND		mg/L		NC NC	20
Barium	0.039		0.0377		mg/L		3	20
Cadmium	ND		ND		mg/L		NC	20
Chromium	0.0034		0.00347		mg/L		2	20
Lead	0.00019	J	ND		mg/L		NC	20
Selenium	ND		ND		mg/L		NC	20
Silver	ND		ND		mg/L		NC	20
_								

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 580-187358/21-A

Matrix: Water

Analysis Batch: 187429

мв мв

Prepared Result Qualifier RLMDL Unit D Dil Fac Analyte Analyzed 0.00020 04/21/15 10:37 Mercury ND 0.000041 mg/L 04/21/15 15:15

Lab Sample ID: LCS 580-187358/22-A

Matrix: Water

Analysis Batch: 187429 Spike LCS LCS

%Rec. Analyte Added Result Qualifier Unit D %Rec Limits Mercury 0.00200 0.00182 91 80 - 120 mg/L

Spike

Lab Sample ID: LCSD 580-187358/23-A

Matrix: Water

Analysis Batch: 187429

Analyte Added Result Qualifier Unit %Rec Limits RPD Limit 0.00200 0.00184 mg/L 80 - 120 Mercury

LCSD LCSD

Lab Sample ID: MB 580-187863/21-A

Matrix: Water

Analysis Batch: 187917

мв мв

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Mercury ND 0.00020 0.000041 mg/L 04/27/15 10:29 04/27/15 12:34

Lab Sample ID: LCS 580-187863/22-A

Matrix: Water

Analysis Batch: 187917

Spike LCS LCS %Rec. Added Analyte Result Qualifier %Rec Limits Unit D 0.00200 0.00198 80 - 120 Mercury mg/L

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Prep Batch: 187863

QC Sample Results

Client: URS Corporation TestAmerica Job ID: 580-49123-1
Project/Site: Crown, Cork & Seal SDG: OR

OR

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 580-187863/23-A				Cli	ent Sam	iple ID:	Lab Contro	ol Sampl	e Dup
Matrix: Water							Prep 1	Type: Tot	al/NA
Analysis Batch: 187917							Prep	Batch: 1	87863
	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.00200	0.00192		mg/L		96	80 - 120	3	20

Lab Sample ID: 580-49123-2 MS Matrix: Water Analysis Batch: 187917	Samnlo	Sample	Spike	MS	MS			Clie	Prep Batch: 187863 %Rec.
Analyte Mercury	•	Qualifier	Added		Qualifier	Unit mg/L	D	%Rec 101	Limits 80 - 120
Lab Sample ID: 580-49123-2 MSD								Clier	nt Sample ID: MW-3 DUP

Matrix: Water									Prep T	ype: Tot	al/NA
Analysis Batch: 187917									Prep	Batch: 1	87863
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Morouny	ND		0.00200	0.00107		ma/l		00	90 120		20

Lab Sample ID: 580-49123-2 DU Matrix: Water Analysis Batch: 187917	J						Clier	•	ID: MW- ype: To Batch: ′	tal/NA
-	Sample	Sample	DU	DU						RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D			RPD	Limit
Mercury	ND		 ND		mg/L				NC	20

Client: URS Corporation Project/Site: Crown, Cork & Seal TestAmerica Job ID: 580-49123-1

SDG: OR

GC/MS VOA

Prep Batch: 187513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-7	OF-2 Overflow Catch Basin	Total/NA	Solid	5030B	
580-49123-7 MS	OF-2 Overflow Catch Basin	Total/NA	Solid	5030B	
580-49123-7 MSD	OF-2 Overflow Catch Basin	Total/NA	Solid	5030B	
LCS 580-187513/2-A	Lab Control Sample	Total/NA	Solid	5030B	
MB 580-187513/1-A	Method Blank	Total/NA	Solid	5030B	

Analysis Batch: 187604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-1	MW-3	Total/NA	Water	8260B	_
580-49123-2	MW-3 DUP	Total/NA	Water	8260B	
580-49123-3	MW-5	Total/NA	Water	8260B	
580-49123-4	MW-4	Total/NA	Water	8260B	
580-49123-5	MW-1	Total/NA	Water	8260B	
580-49123-6	MW-2	Total/NA	Water	8260B	
580-49123-9	Trip Blank	Total/NA	Water	8260B	
LCS 580-187604/6	Lab Control Sample	Total/NA	Water	8260B	
LCSD 580-187604/7	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 580-187604/5	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 187992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-7	OF-2 Overflow Catch Basin	Total/NA	Solid	8260C	187513
580-49123-7 MS	OF-2 Overflow Catch Basin	Total/NA	Solid	8260C	187513
580-49123-7 MSD	OF-2 Overflow Catch Basin	Total/NA	Solid	8260C	187513
LCS 580-187513/2-A	Lab Control Sample	Total/NA	Solid	8260C	187513
MB 580-187513/1-A	Method Blank	Total/NA	Solid	8260C	187513

Analysis Batch: 188017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-1 - RA	MW-3	Total/NA	Water	8260B	
580-49123-2 - RA	MW-3 DUP	Total/NA	Water	8260B	
580-49123-3 - RA	MW-5	Total/NA	Water	8260B	
580-49123-4 - RA	MW-4	Total/NA	Water	8260B	
580-49123-5 - RA	MW-1	Total/NA	Water	8260B	
580-49123-6 - RA	MW-2	Total/NA	Water	8260B	
580-49123-9 - RA	Trip Blank	Total/NA	Water	8260B	
LCS 580-188017/15	Lab Control Sample	Total/NA	Water	8260B	
LCSD 580-188017/16	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 580-188017/14	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 187551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-1	MW-3	Total/NA	Water	3520C	
580-49123-2	MW-3 DUP	Total/NA	Water	3520C	
580-49123-3	MW-5	Total/NA	Water	3520C	
580-49123-4	MW-4	Total/NA	Water	3520C	
580-49123-5	MW-1	Total/NA	Water	3520C	
580-49123-6	MW-2	Total/NA	Water	3520C	

TestAmerica Seattle

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TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal SDG: OR

GC/MS Semi VOA (Continued)

Prep Batch: 187551 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 580-187551/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 580-187551/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 580-187551/1-A	Method Blank	Total/NA	Water	3520C	

Prep Batch: 187566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-7	OF-2 Overflow Catch Basin	Total/NA	Solid	3550B	
580-49123-7 MS	OF-2 Overflow Catch Basin	Total/NA	Solid	3550B	
580-49123-7 MSD	OF-2 Overflow Catch Basin	Total/NA	Solid	3550B	
LCS 580-187566/2-A	Lab Control Sample	Total/NA	Solid	3550B	
LCSD 580-187566/3-A	Lab Control Sample Dup	Total/NA	Solid	3550B	
MB 580-187566/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 187673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-7	OF-2 Overflow Catch Basin	Total/NA	Solid	8270C SIM	187566
580-49123-7 MS	OF-2 Overflow Catch Basin	Total/NA	Solid	8270C SIM	187566
580-49123-7 MSD	OF-2 Overflow Catch Basin	Total/NA	Solid	8270C SIM	187566
LCS 580-187566/2-A	Lab Control Sample	Total/NA	Solid	8270C SIM	187566
LCSD 580-187566/3-A	Lab Control Sample Dup	Total/NA	Solid	8270C SIM	187566
MB 580-187566/1-A	Method Blank	Total/NA	Solid	8270C SIM	187566

Analysis Batch: 187679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-7	OF-2 Overflow Catch Basin	Total/NA	Solid	8270D	187566
580-49123-7 MS	OF-2 Overflow Catch Basin	Total/NA	Solid	8270D	187566
580-49123-7 MSD	OF-2 Overflow Catch Basin	Total/NA	Solid	8270D	187566
LCS 580-187566/2-A	Lab Control Sample	Total/NA	Solid	8270D	187566
LCSD 580-187566/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	187566
MB 580-187566/1-A	Method Blank	Total/NA	Solid	8270D	187566

Analysis Batch: 187816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-1	MW-3	Total/NA	Water	8270D	187551
580-49123-2	MW-3 DUP	Total/NA	Water	8270D	187551
580-49123-3	MW-5	Total/NA	Water	8270D	187551
580-49123-4	MW-4	Total/NA	Water	8270D	187551
580-49123-5	MW-1	Total/NA	Water	8270D	187551
580-49123-6	MW-2	Total/NA	Water	8270D	187551
LCS 580-187551/2-A	Lab Control Sample	Total/NA	Water	8270D	187551
LCSD 580-187551/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	187551

Analysis Batch: 187818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-1	MW-3	Total/NA	Water	8270D SIM	187551
580-49123-2	MW-3 DUP	Total/NA	Water	8270D SIM	187551
580-49123-3	MW-5	Total/NA	Water	8270D SIM	187551
580-49123-4	MW-4	Total/NA	Water	8270D SIM	187551
580-49123-5	MW-1	Total/NA	Water	8270D SIM	187551
580-49123-6	MW-2	Total/NA	Water	8270D SIM	187551
LCS 580-187551/2-A	Lab Control Sample	Total/NA	Water	8270D SIM	187551

TestAmerica Seattle

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Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

GC/MS Semi VOA (Continued)

Analysis Batch: 187818 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 580-187551/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM	187551
MB 580-187551/1-A	Method Blank	Total/NA	Water	8270D SIM	187551

Analysis Batch: 187827

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 580-187551/1-A	Method Blank	Total/NA	Water	8270D	187551

Prep Batch: 187889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep Batch
580-49123-6 - RE	MW-2	Total/NA	Water	3520C
LCS 580-187889/2-A	Lab Control Sample	Total/NA	Water	3520C
LCSD 580-187889/3-A	Lab Control Sample Dup	Total/NA	Water	3520C
MB 580-187889/1-A	Method Blank	Total/NA	Water	3520C

Analysis Batch: 188212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-6 - RE	MW-2	Total/NA	Water	8270D	187889
LCS 580-187889/2-A	Lab Control Sample	Total/NA	Water	8270D	187889
LCSD 580-187889/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	187889
MB 580-187889/1-A	Method Blank	Total/NA	Water	8270D	187889

GC VOA

Analysis Batch: 187654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-1	MW-3	Total/NA	Water	NWTPH-Gx	
580-49123-2	MW-3 DUP	Total/NA	Water	NWTPH-Gx	
580-49123-3	MW-5	Total/NA	Water	NWTPH-Gx	
580-49123-4	MW-4	Total/NA	Water	NWTPH-Gx	
580-49123-5	MW-1	Total/NA	Water	NWTPH-Gx	
580-49123-6	MW-2	Total/NA	Water	NWTPH-Gx	
LCS 580-187654/5	Lab Control Sample	Total/NA	Water	NWTPH-Gx	
LCSD 580-187654/6	Lab Control Sample Dup	Total/NA	Water	NWTPH-Gx	
MB 580-187654/4	Method Blank	Total/NA	Water	NWTPH-Gx	

GC Semi VOA

Prep Batch: 187532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-1	MW-3	Total/NA	Water	3510C	
580-49123-2	MW-3 DUP	Total/NA	Water	3510C	
580-49123-3	MW-5	Total/NA	Water	3510C	
580-49123-4	MW-4	Total/NA	Water	3510C	
580-49123-5	MW-1	Total/NA	Water	3510C	
580-49123-6	MW-2	Total/NA	Water	3510C	
LCS 580-187532/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 580-187532/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 580-187532/1-A	Method Blank	Total/NA	Water	3510C	

TestAmerica Seattle

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Client: URS Corporation

TestAmerica Job ID: 580-49123-1 Project/Site: Crown, Cork & Seal

SDG: OR

GC Semi VOA (Continued)

Prep Batch: 187563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-7	OF-2 Overflow Catch Basin	Total/NA	Solid	3546	
LCS 580-187563/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 580-187563/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
MB 580-187563/1-A	Method Blank	Total/NA	Solid	3546	

Analysis Batch: 187692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-7	OF-2 Overflow Catch Basin	Total/NA	Solid	NWTPH-Dx	187563
LCS 580-187563/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Dx	187563
LCSD 580-187563/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Dx	187563
MB 580-187563/1-A	Method Blank	Total/NA	Solid	NWTPH-Dx	187563

Analysis Batch: 187721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-1	MW-3	Total/NA	Water	8082	187532
580-49123-2	MW-3 DUP	Total/NA	Water	8082	187532
580-49123-3	MW-5	Total/NA	Water	8082	187532
580-49123-4	MW-4	Total/NA	Water	8082	187532
580-49123-5	MW-1	Total/NA	Water	8082	187532
580-49123-6	MW-2	Total/NA	Water	8082	187532
LCS 580-187532/2-A	Lab Control Sample	Total/NA	Water	8082	187532
LCSD 580-187532/3-A	Lab Control Sample Dup	Total/NA	Water	8082	187532
MB 580-187532/1-A	Method Blank	Total/NA	Water	8082	187532

Prep Batch: 187948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-1	MW-3	Total/NA	Water	3510C	 : -
580-49123-2	MW-3 DUP	Total/NA	Water	3510C	
580-49123-3	MW-5	Total/NA	Water	3510C	
580-49123-4	MW-4	Total/NA	Water	3510C	
580-49123-5	MW-1	Total/NA	Water	3510C	
580-49123-6	MW-2	Total/NA	Water	3510C	
LCS 580-187948/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 580-187948/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
MB 580-187948/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 187970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-1	MW-3	Total/NA	Water	NWTPH-Dx	187948
580-49123-2	MW-3 DUP	Total/NA	Water	NWTPH-Dx	187948
580-49123-3	MW-5	Total/NA	Water	NWTPH-Dx	187948
580-49123-4	MW-4	Total/NA	Water	NWTPH-Dx	187948
580-49123-5	MW-1	Total/NA	Water	NWTPH-Dx	187948
580-49123-6	MW-2	Total/NA	Water	NWTPH-Dx	187948
LCS 580-187948/2-A	Lab Control Sample	Total/NA	Water	NWTPH-Dx	187948
LCSD 580-187948/3-A	Lab Control Sample Dup	Total/NA	Water	NWTPH-Dx	187948
MB 580-187948/1-A	Method Blank	Total/NA	Water	NWTPH-Dx	187948

Client: URS Corporation Project/Site: Crown, Cork & Seal TestAmerica Job ID: 580-49123-1

SDG: OR

Metals

Prep Batch: 187358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-1	MW-3	Total/NA	Water	7470A	
580-49123-3	MW-5	Total/NA	Water	7470A	
580-49123-4	MW-4	Total/NA	Water	7470A	
580-49123-5	MW-1	Total/NA	Water	7470A	
580-49123-6	MW-2	Total/NA	Water	7470A	
LCS 580-187358/22-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 580-187358/23-A	Lab Control Sample Dup	Total/NA	Water	7470A	
MB 580-187358/21-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 187429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-1	MW-3	Total/NA	Water	7470A	187358
580-49123-3	MW-5	Total/NA	Water	7470A	187358
580-49123-4	MW-4	Total/NA	Water	7470A	187358
580-49123-5	MW-1	Total/NA	Water	7470A	187358
580-49123-6	MW-2	Total/NA	Water	7470A	187358
LCS 580-187358/22-A	Lab Control Sample	Total/NA	Water	7470A	187358
LCSD 580-187358/23-A	Lab Control Sample Dup	Total/NA	Water	7470A	187358
MB 580-187358/21-A	Method Blank	Total/NA	Water	7470A	187358

Prep Batch: 187794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-1	MW-3	Total Recoverable	Water	3005A	
580-49123-1 DU	MW-3	Total Recoverable	Water	3005A	
580-49123-1 MS	MW-3	Total Recoverable	Water	3005A	
580-49123-1 MSD	MW-3	Total Recoverable	Water	3005A	
580-49123-2	MW-3 DUP	Total Recoverable	Water	3005A	
580-49123-3	MW-5	Total Recoverable	Water	3005A	
580-49123-4	MW-4	Total Recoverable	Water	3005A	
580-49123-5	MW-1	Total Recoverable	Water	3005A	
580-49123-6	MW-2	Total Recoverable	Water	3005A	
LCS 580-187794/14-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCSD 580-187794/15-A	Lab Control Sample Dup	Total Recoverable	Water	3005A	
MB 580-187794/13-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 187838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-1	MW-3	Total Recoverable	Water	6020	187794
580-49123-1 DU	MW-3	Total Recoverable	Water	6020	187794
580-49123-1 MS	MW-3	Total Recoverable	Water	6020	187794
580-49123-1 MSD	MW-3	Total Recoverable	Water	6020	187794
580-49123-2	MW-3 DUP	Total Recoverable	Water	6020	187794
580-49123-3	MW-5	Total Recoverable	Water	6020	187794
580-49123-4	MW-4	Total Recoverable	Water	6020	187794
580-49123-5	MW-1	Total Recoverable	Water	6020	187794
580-49123-6	MW-2	Total Recoverable	Water	6020	187794
LCS 580-187794/14-A	Lab Control Sample	Total Recoverable	Water	6020	187794
LCSD 580-187794/15-A	Lab Control Sample Dup	Total Recoverable	Water	6020	187794
MB 580-187794/13-A	Method Blank	Total Recoverable	Water	6020	187794

TestAmerica Seattle

5/4/2015

Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Metals (Continued)

Prep Batch: 187863

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-2	MW-3 DUP	Total/NA	Water	7470A	
580-49123-2 DU	MW-3 DUP	Total/NA	Water	7470A	
580-49123-2 MS	MW-3 DUP	Total/NA	Water	7470A	
580-49123-2 MSD	MW-3 DUP	Total/NA	Water	7470A	
LCS 580-187863/22-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 580-187863/23-A	Lab Control Sample Dup	Total/NA	Water	7470A	
MB 580-187863/21-A	Method Blank	Total/NA	Water	7470A	

Prep Batch: 187876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-7	OF-2 Overflow Catch Basin	Total/NA	Solid	3050B	
LCS 580-187876/20-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-187876/21-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
MB 580-187876/19-A	Method Blank	Total/NA	Solid	3050B	

Analysis Batch: 187917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-2	MW-3 DUP	Total/NA	Water	7470A	187863
580-49123-2 DU	MW-3 DUP	Total/NA	Water	7470A	187863
580-49123-2 MS	MW-3 DUP	Total/NA	Water	7470A	187863
580-49123-2 MSD	MW-3 DUP	Total/NA	Water	7470A	187863
LCS 580-187863/22-A	Lab Control Sample	Total/NA	Water	7470A	187863
LCSD 580-187863/23-A	Lab Control Sample Dup	Total/NA	Water	7470A	187863
MB 580-187863/21-A	Method Blank	Total/NA	Water	7470A	187863

Analysis Batch: 187954

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-7	OF-2 Overflow Catch Basin	Total/NA	Solid	6020	187876
LCS 580-187876/20-A	Lab Control Sample	Total/NA	Solid	6020	187876
LCSD 580-187876/21-A	Lab Control Sample Dup	Total/NA	Solid	6020	187876
MB 580-187876/19-A	Method Blank	Total/NA	Solid	6020	187876

General Chemistry

Analysis Batch: 187542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49123-7	OF-2 Overflow Catch Basin	Total/NA	Solid	D 2216	

Lab Chronicle

Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Lab Sample ID: 580-49123-1

Lab Sample ID: 580-49123-2

Matrix: Water

Matrix: Water

Client Sample ID: MW-3

Date Collected: 04/17/15 09:10 Date Received: 04/17/15 17:30

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B			187604	04/23/15 18:38	D1R	TAL SEA
Total/NA	Analysis	8260B	RA	1	188017	04/28/15 16:15	CJ	TAL SEA
Total/NA	Prep	3520C			187551	04/22/15 19:16	ALC	TAL SEA
Total/NA	Analysis	8270D		1	187816	04/25/15 22:10	ERB	TAL SEA
Total/NA	Prep	3520C			187551	04/22/15 19:16	ALC	TAL SEA
Total/NA	Analysis	8270D SIM		1	187818	04/25/15 16:19	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	187654	04/23/15 21:43	TL1	TAL SEA
Total/NA	Prep	3510C			187532	04/22/15 15:24	RBL	TAL SEA
Total/NA	Analysis	8082		1	187721	04/25/15 00:36	EKK	TAL SEA
Total/NA	Prep	3510C			187948	04/27/15 17:55	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	187970	04/28/15 10:09	EKK	TAL SEA
Total Recoverable	Prep	3005A			187794	04/24/15 18:21	PAB	TAL SEA
Total Recoverable	Analysis	6020		5	187838	04/25/15 11:29	FCW	TAL SEA
Total/NA	Prep	7470A			187358	04/21/15 10:37	PAB	TAL SEA
Total/NA	Analysis	7470A		1	187429	04/21/15 16:07	FCW	TAL SEA

Client Sample ID: MW-3 DUP

Date Collected: 04/17/15 09:10

Date Received: 04/17/15 17:30

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	187604	04/23/15 19:04	D1R	TAL SEA
Total/NA	Analysis	8260B	RA	1	188017	04/28/15 16:41	CJ	TAL SEA
Total/NA	Prep	3520C			187551	04/22/15 19:16	ALC	TAL SEA
Total/NA	Analysis	8270D		1	187816	04/25/15 22:35	ERB	TAL SEA
Total/NA	Prep	3520C			187551	04/22/15 19:16	ALC	TAL SEA
Total/NA	Analysis	8270D SIM		1	187818	04/25/15 16:41	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	187654	04/23/15 22:14	TL1	TAL SEA
Total/NA	Prep	3510C			187532	04/22/15 15:24	RBL	TAL SEA
Total/NA	Analysis	8082		1	187721	04/25/15 00:53	EKK	TAL SEA
Total/NA	Prep	3510C			187948	04/27/15 17:55	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	187970	04/28/15 10:28	EKK	TAL SEA
Total Recoverable	Prep	3005A			187794	04/24/15 18:21	PAB	TAL SEA
Total Recoverable	Analysis	6020		5	187838	04/25/15 12:02	FCW	TAL SEA
Total/NA	Prep	7470A			187863	04/27/15 10:29	PAB	TAL SEA
Total/NA	Analysis	7470A		1	187917	04/27/15 12:46	FCW	TAL SEA

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TestAmerica Job ID: 580-49123-1

SDG: OR

Client Sample ID: MW-5

Project/Site: Crown, Cork & Seal

Client: URS Corporation

Date Collected: 04/16/15 16:00 Date Received: 04/17/15 17:30 Lab Sample ID: 580-49123-3

Matrix: Water

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	187604	04/23/15 19:30	D1R	TAL SEA
Total/NA	Analysis	8260B	RA	1	188017	04/28/15 17:08	CJ	TAL SEA
Total/NA	Prep	3520C			187551	04/22/15 19:16	ALC	TAL SEA
Total/NA	Analysis	8270D		1	187816	04/25/15 23:01	ERB	TAL SEA
Total/NA	Prep	3520C			187551	04/22/15 19:16	ALC	TAL SEA
Total/NA	Analysis	8270D SIM		1	187818	04/25/15 17:03	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	187654	04/23/15 22:45	TL1	TAL SEA
Total/NA	Prep	3510C			187532	04/22/15 15:24	RBL	TAL SEA
Total/NA	Analysis	8082		1	187721	04/25/15 01:10	EKK	TAL SEA
Total/NA	Prep	3510C			187948	04/27/15 17:55	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	187970	04/28/15 10:47	EKK	TAL SEA
Total Recoverable	Prep	3005A			187794	04/24/15 18:21	PAB	TAL SEA
Total Recoverable	Analysis	6020		5	187838	04/25/15 12:06	FCW	TAL SEA
Total/NA	Prep	7470A			187358	04/21/15 10:37	PAB	TAL SEA
Total/NA	Analysis	7470A		1	187429	04/21/15 16:10	FCW	TAL SEA

Client Sample ID: MW-4

Date Collected: 04/16/15 14:30 Date Received: 04/17/15 17:30 Lab Sample ID: 580-49123-4

Matrix: Water

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	187604	04/23/15 19:57	D1R	TAL SEA
Total/NA	Analysis	8260B	RA	1	188017	04/28/15 17:34	CJ	TAL SEA
Total/NA	Prep	3520C			187551	04/22/15 19:16	ALC	TAL SEA
Total/NA	Analysis	8270D		1	187816	04/25/15 23:27	ERB	TAL SEA
Total/NA	Prep	3520C			187551	04/22/15 19:16	ALC	TAL SEA
Total/NA	Analysis	8270D SIM		1	187818	04/25/15 17:25	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	187654	04/23/15 23:16	TL1	TAL SEA
Total/NA	Prep	3510C			187532	04/22/15 15:24	RBL	TAL SEA
Total/NA	Analysis	8082		1	187721	04/25/15 01:26	EKK	TAL SEA
Total/NA	Prep	3510C			187948	04/27/15 17:55	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	187970	04/28/15 11:06	EKK	TAL SEA
Total Recoverable	Prep	3005A			187794	04/24/15 18:21	PAB	TAL SEA
Total Recoverable	Analysis	6020		5	187838	04/25/15 12:10	FCW	TAL SEA
Total/NA	Prep	7470A			187358	04/21/15 10:37	PAB	TAL SEA
Total/NA	Analysis	7470A		1	187429	04/21/15 16:12	FCW	TAL SEA

Client Sample ID: MW-1 Date Collected: 04/16/15 12:15 Date Received: 04/17/15 17:30 Lab Sample ID: 580-49123-5

Matrix: Water

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	187604	04/23/15 20:23	D1R	TAL SEA

Lab Chronicle

Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Lab Sample ID: 580-49123-5

Matrix: Water

Client Sample ID: MW-1

Date Collected: 04/16/15 12:15 Date Received: 04/17/15 17:30

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA		188017	04/28/15 18:01	CJ	TAL SEA
Total/NA	Prep	3520C			187551	04/22/15 19:16	ALC	TAL SEA
Total/NA	Analysis	8270D		1	187816	04/25/15 23:52	ERB	TAL SEA
Total/NA	Prep	3520C			187551	04/22/15 19:16	ALC	TAL SEA
Total/NA	Analysis	8270D SIM		1	187818	04/25/15 17:47	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	187654	04/23/15 23:48	TL1	TAL SEA
Total/NA	Prep	3510C			187532	04/22/15 15:24	RBL	TAL SEA
Total/NA	Analysis	8082		1	187721	04/25/15 01:43	EKK	TAL SEA
Total/NA	Prep	3510C			187948	04/27/15 17:55	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	187970	04/28/15 11:24	EKK	TAL SEA
Total Recoverable	Prep	3005A			187794	04/24/15 18:21	PAB	TAL SEA
Total Recoverable	Analysis	6020		5	187838	04/25/15 12:14	FCW	TAL SEA
Total/NA	Prep	7470A			187358	04/21/15 10:37	PAB	TAL SEA
Total/NA	Analysis	7470A		1	187429	04/21/15 16:14	FCW	TAL SEA

Client Sample ID: MW-2 Lab Sample ID: 580-49123-6

Date Collected: 04/16/15 10:30 Matrix: Water

Date Received: 04/17/15 17:30

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	187604	04/23/15 20:49	D1R	TAL SEA
Total/NA	Analysis	8260B	RA	1	188017	04/28/15 15:48	CJ	TAL SEA
Total/NA	Prep	3520C	RE		187889	04/27/15 12:44	JDR	TAL SEA
Total/NA	Analysis	8270D	RE	1	188212	04/30/15 10:51	AHP	TAL SEA
Total/NA	Prep	3520C			187551	04/22/15 19:16	ALC	TAL SEA
Total/NA	Analysis	8270D		1	187816	04/26/15 00:18	ERB	TAL SEA
Total/NA	Prep	3520C			187551	04/22/15 19:16	ALC	TAL SEA
Total/NA	Analysis	8270D SIM		1	187818	04/25/15 18:08	ERZ	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	187654	04/24/15 00:19	TL1	TAL SEA
Total/NA	Prep	3510C			187532	04/22/15 15:24	RBL	TAL SEA
Total/NA	Analysis	8082		1	187721	04/25/15 01:59	EKK	TAL SEA
Total/NA	Prep	3510C			187948	04/27/15 17:55	RBL	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	187970	04/28/15 11:43	EKK	TAL SEA
Total Recoverable	Prep	3005A			187794	04/24/15 18:21	PAB	TAL SEA
Total Recoverable	Analysis	6020		5	187838	04/25/15 12:18	FCW	TAL SEA
Total/NA	Prep	7470A			187358	04/21/15 10:37	PAB	TAL SEA
Total/NA	Analysis	7470A		1	187429	04/21/15 16:17	FCW	TAL SEA

Lab Chronicle

Client: URS Corporation

Project/Site: Crown, Cork & Seal

Date Collected: 04/17/15 13:15

Date Received: 04/17/15 17:30

Client Sample ID: OF-2 Overflow Catch Basin

TestAmerica Job ID: 580-49123-1

SDG: OR

Lab Sample ID: 580-49123-7

Matrix: Solid Percent Solids: 76.6

	Batch	Batch		Dilution	Batch	Prepared			
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab	
Total/NA	Prep	5030B	-		187513	04/22/15 12:15	IWH	TAL SEA	
Total/NA	Analysis	8260C		1	187992	04/27/15 14:52	JMB	TAL SEA	
Total/NA	Prep	3550B			187566	04/23/15 09:00	KZ1	TAL SEA	
Total/NA	Analysis	8270C SIM		1	187673	04/24/15 10:57	ERZ	TAL SEA	
Total/NA	Prep	3550B			187566	04/23/15 09:00	KZ1	TAL SEA	
Total/NA	Analysis	8270D		1	187679	04/24/15 17:40	AHP	TAL SEA	
Total/NA	Prep	3546			187563	04/23/15 08:49	ERZ	TAL SEA	
Total/NA	Analysis	NWTPH-Dx		1	187692	04/24/15 13:44	EKK	TAL SEA	
Total/NA	Prep	3050B			187876	04/27/15 11:39	PAB	TAL SEA	
Total/NA	Analysis	6020		10	187954	04/27/15 18:22	FCW	TAL SEA	
Total/NA	Analysis	D 2216		1	187542	04/22/15 16:29	MKN	TAL SEA	

Client Sample ID: Trip Blank

Lab Sample ID: 580-49123-9 Date Collected: 04/16/15 00:00

Matrix: Water

Date Received: 04/17/15 17:30

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B			187604	04/23/15 17:19	D1R	TAL SEA
Total/NA	Analysis	8260B	RA	1	188017	04/28/15 14:56	CJ	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: URS Corporation TestAmerica Job ID: 580-49123-1
Project/Site: Crown, Cork & Seal SDG: OR

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-16
California	State Program	9	2901	01-31-17
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-15
US Fish & Wildlife	Federal		LE192332-0	02-28-16
USDA	Federal		P330-11-00222	04-08-17
Washington	State Program	10	C553	02-17-16

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Sample Summary

Client: URS Corporation

Project/Site: Crown, Cork & Seal

TestAmerica Job ID: 580-49123-1

SDG: OR

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-49123-1	MW-3	Water	04/17/15 09:10	04/17/15 17:30
580-49123-2	MW-3 DUP	Water	04/17/15 09:10	04/17/15 17:30
580-49123-3	MW-5	Water	04/16/15 16:00	04/17/15 17:30
580-49123-4	MW-4	Water	04/16/15 14:30	04/17/15 17:30
580-49123-5	MW-1	Water	04/16/15 12:15	04/17/15 17:30
580-49123-6	MW-2	Water	04/16/15 10:30	04/17/15 17:30
580-49123-7	OF-2 Overflow Catch Basin	Solid	04/17/15 13:15	04/17/15 17:30
580-49123-9	Trip Blank	Water	04/16/15 00:00	04/17/15 17:30

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THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Seattle 5755 8th Street E. Tacoma, WA 98424 Tel. 253-922-2310 Fax 253-922-5047 www.testamericainc.com

Rus

Short Hold



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580-49123 Chain of Custody

ABCOM-MECOX Address 111 Sur Columbia		Client	Conta	act TCv	ر	Pole	كمحد	3					*	e		ate 4	17	-1	5		1-			2	ัล)5(1
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Cram Cark + Seal - OX		Billing (Conta	act									-PA#5		- March	ğ,	- Physides	3 ~					Spec	cial Ir	struc	ctions	s/
Contract/Purchase Order/Quote No.				Mat	rix				ntainers o servativo	es	₹.	×3.4	251M		5-1	KB	D-0	なって								Receip	
Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Air	Aqueous Sed.	Soil		HZS04	HNO3	нсі NaOH	ZnAc/ NaOH	WW. Ret	8300B T	8370	6020	ったっ	2808	8										
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MW-4	4-16-15	1430		X	a	k	>	1	8		X	x	X	X	X	K	x	X									
Mw-1	4-16-15	1215		X		(0	1	8		X	K	X	X	×	X	X	X									
MW-Z	4-16-15	1030		X		(3	1	8		X	X	X	X	X	X	X	y									
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Yes □ No Cooler Temp: Non-Ha Turn Around Time Required (business days)	azard 🗆 Flam.	mable L	J Sk	in Irritar	nt	□ Poi				own 🔲 . s (Specify)		n To C	lient		Ai	chive	For_			_ Moi	nths	are	retaine	d longi	er than	1 mon	th)
☐ 24 Hours ☐ 48 Hours ☐ 5 Days ☐ 10 Da	ys 🗆 15 Days	□ Othe	er					, , , , , ,		o (opoony)																	
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3. Relinquished By Sign/Print		Date	• ;		ime	-	3.	Rece	ived By	Agn/Prin	1											Dati	9	-	Time		
Comments									* *						5)						-						

5/4/2013

Page 76 of 77

Login Sample Receipt Checklist

Client: URS Corporation Job Number: 580-49123-1

SDG Number: OR

Login Number: 49123 List Source: TestAmerica Seattle

List Number: 1

Creator: Lehman, Clarissa A

oreator. Lemman, oranssa A		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Not requested on COC.
There are no discrepancies between the containers received and the COC.	False	Received extra samples not listed on COC.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

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5/5/2015

Mr. Stephen Roberts
URS Corporation
111 SW Columbia Street
Suite 1500
Portland OR 97201

Project Name: Mecox Project #: 33765194 Workorder #: 1504437

Dear Mr. Stephen Roberts

The following report includes the data for the above referenced project for sample(s) received on 4/22/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

Elly Butte



WORK ORDER #: 1504437

Work Order Summary

CLIENT: Mr. Stephen Roberts BILL TO: Accounts Payable Austin

AECOM AECOM

111 SW Columbia Street P.O. BOX 203970 Suite 1500 Austin, TX 78720-1088

Portland, OR 97201

PHONE: 503-222-7200 **P.O.** # 33765194

FAX: PROJECT # 33765194 Mecox

DATE RECEIVED: 04/22/2015 **CONTACT:** Kelly Buettner **DATE COMPLETED:** 05/05/2015

FRACTION #	<u>NAME</u>	TEST_	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	SSVP-1	Modified TO-15	3.9 "Hg	5.3 psi
01B	SSVP-1	Modified TO-15	3.9 "Hg	5.3 psi
02A	SSVP-2	Modified TO-15	3.1 "Hg	4.9 psi
03A	SSVP-3	Modified TO-15	2.2 "Hg	5 psi
03B	SSVP-3	Modified TO-15	2.2 "Hg	5 psi
04A	Lab Blank	Modified TO-15	NA	NA
04B	Lab Blank	Modified TO-15	NA	NA
04C	Lab Blank	Modified TO-15	NA	NA
04D	Lab Blank	Modified TO-15	NA	NA
04E	Lab Blank	Modified TO-15	NA	NA
05A	CCV	Modified TO-15	NA	NA
05B	CCV	Modified TO-15	NA	NA
05C	CCV	Modified TO-15	NA	NA
05D	CCV	Modified TO-15	NA	NA
05E	CCV	Modified TO-15	NA	NA
06A	LCS	Modified TO-15	NA	NA
06AA	LCSD	Modified TO-15	NA	NA
06B	LCS	Modified TO-15	NA	NA
06BB	LCSD	Modified TO-15	NA	NA
06C	LCS	Modified TO-15	NA	NA
06CC	LCSD	Modified TO-15	NA	NA
06D	LCS	Modified TO-15	NA	NA
06DD	LCSD	Modified TO-15	NA	NA

Continued on next page



WORK ORDER #: 1504437

Work Order Summary

CLIENT: Mr. Stephen Roberts BILL TO: Accounts Payable Austin

AECOM AECOM

 111 SW Columbia Street
 P.O. BOX 203970

 Suite 1500
 Austin, TX 78720-1088

Portland, OR 97201

PHONE: 503-222-7200 **P.O.** # 33765194

FAX: PROJECT # 33765194 Mecox

DATE RECEIVED: 04/22/2015 CONTACT: Kelly Buettner DATE COMPLETED: 05/05/2015

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	PRESSURE
06E	LCS	Modified TO-15	NA	NA
06EE	LCSD	Modified TO-15	NA	NA

	the	de Tayes		
CERTIFIED BY:		0	DATE: $\frac{05/05/15}{}$	

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015. Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.



LABORATORY NARRATIVE Modified TO-15 Full Scan/SIM URS Corporation Workorder# 1504437

Three 6 Liter Summa Canister (SIM Certified) samples were received on April 22, 2015. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	=30% RSD with 2<br compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	For Full Scan: = 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.



Dilution was performed on samples SSVP-2 and SSVP-3 due to the presence of high level target species.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
 - J Estimated value.
 - E Exceeds instrument calibration range.
 - S Saturated peak.
 - Q Exceeds quality control limits.
 - U Compound analyzed for but not detected above the reporting limit.
 - UJ- Non-detected compound associated with low bias in the CCV
 - N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue



Summary of Detected Compounds MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

Client Sample ID: SSVP-1 Lab ID#: 1504437-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.52	0.77	2.6
Freon 11	0.16	0.26	0.88	1.4
Acetone	0.78	10 J0	1.8	24 J0
Chloroform	0.16	0.36	0.76	1.8
4-Methyl-2-pentanone	0.16	1.4	0.64	5.9
4-Ethyltoluene	0.16	0.57	0.77	2.8
1,3,5-Trimethylbenzene	0.16	0.30	0.77	1.5
1,2,4-Trimethylbenzene	0.16	0.66	0.77	3.2

Client Sample ID: SSVP-1

Lab ID#: 1504437-01B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.031	1.7	0.17	9.4
Benzene	0.078	0.10	0.25	0.34
Toluene	0.031	0.43	0.12	1.6
Tetrachloroethene	0.031	0.64	0.21	4.3
Ethyl Benzene	0.031	0.48	0.14	2.1
m,p-Xylene	0.062	2.3	0.27	10
o-Xylene	0.031	0.78	0.14	3.4

Client Sample ID: SSVP-2

Lab ID#: 1504437-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1-Dichloroethene	740	930	2900	3700
Acetone	3000	22000	7000	51000
1,1-Dichloroethane	740	1400	3000	5600
1,1,1-Trichloroethane	740	20000	4000	110000
4-Methyl-2-pentanone	740	290000	3000	1200000
Toluene	740	7600	2800	29000
Tetrachloroethene	740	1400	5000	9200
Ethyl Benzene	740	10000	3200	45000



Summary of Detected Compounds MODIFIED EPA METHOD TO-14A GC/MS

Client Sample ID: SSVP-2

Lab ID#: 1504437-02A				
m,p-Xylene	740	43000	3200	180000
o-Xylene	740	18000	3200	76000
Cumene	740	3600	3600	18000
Propylbenzene	740	9200	3600	45000
4-Ethyltoluene	740	47000	3600	230000
1,3,5-Trimethylbenzene	740	19000	3600	93000

740

38000

3600

190000

Client Sample ID: SSVP-3 Lab ID#: 1504437-03A

1,2,4-Trimethylbenzene

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.47	0.90	2.3
Freon 11	0.18	0.26	1.0	1.5
Ethanol	0.90	1.0	1.7	1.9
Freon 113	0.18	0.19	1.4	1.4
Acetone	0.90	3.2	2.1	7.6
Cyclohexane	0.18	0.63	0.62	2.2

Client Sample ID: SSVP-3

Lab ID#: 1504437-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.036	23	0.20	120
Toluene	0.036	0.15	0.14	0.56
Tetrachloroethene	0.036	23	0.24	160
m,p-Xylene	0.072	0.12	0.31	0.53
o-Xylene	0.036	0.047	0.16	0.20



Client Sample ID: SSVP-1 Lab ID#: 1504437-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e042820 Date of Collection: 4/17/15 12:24:00 PM
Dil. Factor: 1.56 Date of Analysis: 4/28/15 10:20 PM

Dil. Factor:	1.56	Date of Analysis: 4/28/15 10:20 PM		
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.16	0.52	0.77	2.6
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.78	Not Detected	1.6	Not Detected
1,3-Butadiene	0.16	Not Detected	0.34	Not Detected
Bromomethane	0.78	Not Detected	3.0	Not Detected
Chloroethane	0.78	Not Detected	2.0	Not Detected
Freon 11	0.16	0.26	0.88	1.4
Ethanol	0.78	Not Detected UJ	1.5	Not Detected UJ
Freon 113	0.16	Not Detected	1.2	Not Detected
Acetone	0.78	10 J0	1.8	24 J0
2-Propanol	0.78	Not Detected	1.9	Not Detected
Carbon Disulfide	0.78	Not Detected	2.4	Not Detected
3-Chloropropene	0.78	Not Detected	2.4	Not Detected
Methylene Chloride	0.31	Not Detected	1.1	Not Detected
Hexane	0.16	Not Detected	0.55	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.78	Not Detected	2.3	Not Detected
Tetrahydrofuran	0.78	Not Detected	2.3	Not Detected
Chloroform	0.16	0.36	0.76	1.8
Cyclohexane	0.16	Not Detected	0.54	Not Detected
Carbon Tetrachloride	0.16	Not Detected	0.98	Not Detected
2,2,4-Trimethylpentane	0.78	Not Detected	3.6	Not Detected
Heptane	0.16	Not Detected	0.64	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.72	Not Detected
1,4-Dioxane	0.16	Not Detected	0.56	Not Detected
Bromodichloromethane	0.16	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.71	Not Detected
4-Methyl-2-pentanone	0.16	1.4	0.64	5.9
trans-1,3-Dichloropropene	0.16	Not Detected	0.71	Not Detected
2-Hexanone	0.78	Not Detected	3.2	Not Detected
Dibromochloromethane	0.16	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.72	Not Detected
Styrene	0.16	Not Detected	0.66	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.77	Not Detected
Propylbenzene	0.16	Not Detected	0.77	Not Detected
4-Ethyltoluene	0.16	0.57	0.77	2.8
1,3,5-Trimethylbenzene	0.16	0.30	0.77	1.5
1,2,4-Trimethylbenzene	0.16	0.66	0.77	3.2
1,3-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.81	Not Detected



Client Sample ID: SSVP-1 Lab ID#: 1504437-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e042820	Date of Collection: 4/17/15 12:24:00 PM
Dil. Factor:	1.56	Date of Analysis: 4/28/15 10:20 PM

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
1,2-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,2,4-Trichlorobenzene	0.78	Not Detected	5.8	Not Detected
Hexachlorobutadiene	0.78	Not Detected	8.3	Not Detected

UJ = Analyte associated with low bias in the CCV and/or LCS.

Container Type: 6 Liter Summa Canister (SIM Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	100	70-130

J0 = Estimated value due to bias in the CCV.



Client Sample ID: SSVP-1 Lab ID#: 1504437-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e042820sim Date of Collection: 4/17/15 12:24:00 PM
Dil. Factor: 1.56 Date of Analysis: 4/28/15 10:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.040	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.062	Not Detected
1,1-Dichloroethane	0.031	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.031	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.031	1.7	0.17	9.4
Benzene	0.078	0.10	0.25	0.34
1,2-Dichloroethane	0.031	Not Detected	0.13	Not Detected
Trichloroethene	0.031	Not Detected	0.17	Not Detected
Toluene	0.031	0.43	0.12	1.6
1,1,2-Trichloroethane	0.031	Not Detected	0.17	Not Detected
Tetrachloroethene	0.031	0.64	0.21	4.3
Ethyl Benzene	0.031	0.48	0.14	2.1
m,p-Xylene	0.062	2.3	0.27	10
o-Xylene	0.031	0.78	0.14	3.4
1,1,2,2-Tetrachloroethane	0.031	Not Detected	0.21	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.56	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	105	70-130



Client Sample ID: SSVP-2 Lab ID#: 1504437-02A

MODIFIED EPA METHOD TO-14A GC/MS

File Name: 14042935 Date of Collection: 4/17/15 12:08:00 PM
Dil. Factor: 148 Date of Analysis: 4/30/15 03:17 PM

Dil. Factor:	148	Date of Analysis: 4/30/15 03:17 F		
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	740	Not Detected	3600	Not Detected
Freon 114	740	Not Detected	5200	Not Detected
Chloromethane	3000	Not Detected	6100	Not Detected
Vinyl Chloride	740	Not Detected	1900	Not Detected
1,3-Butadiene	740	Not Detected	1600	Not Detected
Bromomethane	740	Not Detected	2900	Not Detected
Chloroethane	3000	Not Detected	7800	Not Detected
Freon 11	740	Not Detected	4200	Not Detected
Ethanol	3000	Not Detected	5600	Not Detected
Freon 113	740	Not Detected	5700	Not Detected
1,1-Dichloroethene	740	930	2900	3700
Acetone	3000	22000	7000	51000
2-Propanol	3000	Not Detected	7300	Not Detected
Carbon Disulfide	740	Not Detected	2300	Not Detected
3-Chloropropene	3000	Not Detected	9300	Not Detected
Methylene Chloride	740	Not Detected	2600	Not Detected
Methyl tert-butyl ether	740	Not Detected	2700	Not Detected
trans-1,2-Dichloroethene	740	Not Detected	2900	Not Detected
Hexane	740	Not Detected	2600	Not Detected
1,1-Dichloroethane	740	1400	3000	5600
2-Butanone (Methyl Ethyl Ketone)	3000	Not Detected	8700	Not Detected
cis-1,2-Dichloroethene	740	Not Detected	2900	Not Detected
Tetrahydrofuran	740	Not Detected	2200	Not Detected
Chloroform	740	Not Detected	3600	Not Detected
1,1,1-Trichloroethane	740	20000	4000	110000
Cyclohexane	740	Not Detected	2500	Not Detected
Carbon Tetrachloride	740	Not Detected	4600	Not Detected
2,2,4-Trimethylpentane	740	Not Detected	3400	Not Detected
Benzene	740	Not Detected	2400	Not Detected
1,2-Dichloroethane	740	Not Detected	3000	Not Detected
Heptane	740	Not Detected	3000	Not Detected
Trichloroethene	740	Not Detected	4000	Not Detected
1,2-Dichloropropane	740	Not Detected	3400	Not Detected
1,4-Dioxane	3000	Not Detected	11000	Not Detected
Bromodichloromethane	740	Not Detected	5000	Not Detected
cis-1,3-Dichloropropene	740	Not Detected	3400	Not Detected
4-Methyl-2-pentanone	740	290000	3000	1200000
Toluene	740	7600	2800	29000
trans-1,3-Dichloropropene	740	Not Detected	3400	Not Detected
1,1,2-Trichloroethane	740	Not Detected	4000	Not Detected
Tetrachloroethene	740	1400	5000	9200
2-Hexanone	3000	Not Detected	12000	Not Detected



Client Sample ID: SSVP-2 Lab ID#: 1504437-02A

MODIFIED EPA METHOD TO-14A GC/MS

File Name: 14042935 Date of Collection: 4/17/15 12:08:00 PM
Dil. Factor: 148 Date of Analysis: 4/30/15 03:17 PM

			or maryold: 4700	10 00111 1 111
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	740	Not Detected	6300	Not Detected
1,2-Dibromoethane (EDB)	740	Not Detected	5700	Not Detected
Chlorobenzene	740	Not Detected	3400	Not Detected
Ethyl Benzene	740	10000	3200	45000
m,p-Xylene	740	43000	3200	180000
o-Xylene	740	18000	3200	76000
Styrene	740	Not Detected	3200	Not Detected
Bromoform	740	Not Detected	7600	Not Detected
Cumene	740	3600	3600	18000
1,1,2,2-Tetrachloroethane	740	Not Detected	5100	Not Detected
Propylbenzene	740	9200	3600	45000
4-Ethyltoluene	740	47000	3600	230000
1,3,5-Trimethylbenzene	740	19000	3600	93000
1,2,4-Trimethylbenzene	740	38000	3600	190000
1,3-Dichlorobenzene	740	Not Detected	4400	Not Detected
1,4-Dichlorobenzene	740	Not Detected	4400	Not Detected
alpha-Chlorotoluene	740	Not Detected	3800	Not Detected
1,2-Dichlorobenzene	740	Not Detected	4400	Not Detected
1,2,4-Trichlorobenzene	3000	Not Detected	22000	Not Detected
Hexachlorobutadiene	3000	Not Detected	32000	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	89	70-130	
Toluene-d8	112	70-130	
4-Bromofluorobenzene	108	70-130	



Client Sample ID: SSVP-3 Lab ID#: 1504437-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: v042909 Date of Collection: 4/17/15 11:46:00 AM
Dil. Factor: 1.81 Date of Analysis: 4/29/15 01:58 PM

Dil. Factor:	1.81	Date of Analysis: 4/29/15 01:58 PM		
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.18	0.47	0.90	2.3
Freon 114	0.18	Not Detected	1.3	Not Detected
Chloromethane	0.90	Not Detected	1.9	Not Detected
1,3-Butadiene	0.18	Not Detected	0.40	Not Detected
Bromomethane	0.90	Not Detected	3.5	Not Detected
Chloroethane	0.90	Not Detected	2.4	Not Detected
Freon 11	0.18	0.26	1.0	1.5
Ethanol	0.90	1.0	1.7	1.9
Freon 113	0.18	0.19	1.4	1.4
Acetone	0.90	3.2	2.1	7.6
2-Propanol	0.90	Not Detected	2.2	Not Detected
Carbon Disulfide	0.90	Not Detected	2.8	Not Detected
3-Chloropropene	0.90	Not Detected	2.8	Not Detected
Methylene Chloride	0.36	Not Detected	1.2	Not Detected
Hexane	0.18	Not Detected	0.64	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.90	Not Detected	2.7	Not Detected
Tetrahydrofuran	0.90	Not Detected	2.7	Not Detected
Chloroform	0.18	Not Detected	0.88	Not Detected
Cyclohexane	0.18	0.63	0.62	2.2
Carbon Tetrachloride	0.18	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.90	Not Detected	4.2	Not Detected
Heptane	0.18	Not Detected	0.74	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.84	Not Detected
1,4-Dioxane	0.18	Not Detected	0.65	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.82	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.74	Not Detected
trans-1,3-Dichloropropene	0.18	Not Detected	0.82	Not Detected
2-Hexanone	0.90	Not Detected	3.7	Not Detected
Dibromochloromethane	0.18	Not Detected	1.5	Not Detected
1,2-Dibromoethane (EDB)	0.18	Not Detected	1.4	Not Detected
Chlorobenzene	0.18	Not Detected	0.83	Not Detected
Styrene	0.18	Not Detected	0.77	Not Detected
Bromoform	0.18	Not Detected	1.9	Not Detected
Cumene	0.18	Not Detected	0.89	Not Detected
Propylbenzene	0.18	Not Detected	0.89	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.89	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.89	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.89	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
alpha-Chlorotoluene	0.18	Not Detected	0.94	Not Detected



Client Sample ID: SSVP-3 Lab ID#: 1504437-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	v042909	Date of Collection: 4/17/15 11:46:00 AM
Dil. Factor:	1.81	Date of Analysis: 4/29/15 01:58 PM

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.90	Not Detected	6.7	Not Detected
Hexachlorobutadiene	0.90	Not Detected	9.6	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	103	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	100	70-130	



Client Sample ID: SSVP-3 Lab ID#: 1504437-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	v042909sim	Date of Collection: 4/17/15 11:46:00 AM
Dil. Factor:	1.81	Date of Analysis: 4/29/15 01:58 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.018	Not Detected	0.046	Not Detected
1,1-Dichloroethene	0.018	Not Detected	0.072	Not Detected
1,1-Dichloroethane	0.036	Not Detected	0.15	Not Detected
cis-1,2-Dichloroethene	0.036	Not Detected	0.14	Not Detected
1,1,1-Trichloroethane	0.036	23	0.20	120
Benzene	0.090	Not Detected	0.29	Not Detected
1,2-Dichloroethane	0.036	Not Detected	0.15	Not Detected
Trichloroethene	0.036	Not Detected	0.19	Not Detected
Toluene	0.036	0.15	0.14	0.56
1,1,2-Trichloroethane	0.036	Not Detected	0.20	Not Detected
Tetrachloroethene	0.036	23	0.24	160
Ethyl Benzene	0.036	Not Detected	0.16	Not Detected
m,p-Xylene	0.072	0.12	0.31	0.53
o-Xylene	0.036	0.047	0.16	0.20
1,1,2,2-Tetrachloroethane	0.036	Not Detected	0.25	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Methyl tert-butyl ether	0.18	Not Detected	0.65	Not Detected

Container Type: 6 Liter Summa Canister (SIM Certified)

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	107	70-130	
Toluene-d8	103	70-130	
4-Bromofluorobenzene	100	70-130	



Client Sample ID: Lab Blank Lab ID#: 1504437-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e042806	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/28/15 09:52 AM

Dil. Factor:	1.00 Date of Analysis: 4/28/15 09:52			3/15 09:52 AM
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 114	0.10	Not Detected	0.70	Not Detected
Chloromethane	0.50	Not Detected	1.0	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected UJ	0.94	Not Detected U.
Freon 113	0.10	Not Detected	0.77	Not Detected
Acetone	0.50	Not Detected UJ	1.2	Not Detected U.
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Hexane	0.10	Not Detected	0.35	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
Carbon Tetrachloride	0.10	Not Detected	0.63	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Heptane	0.10	Not Detected	0.41	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Bromodichloromethane	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
2-Hexanone	0.50	Not Detected	2.0	Not Detected
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected
1,2-Dibromoethane (EDB)	0.10	Not Detected	0.77	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0.10	Not Detected	1.0	Not Detected
Cumene	0.10	Not Detected	0.49	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	0.52	Not Detected
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Client Sample ID: Lab Blank Lab ID#: 1504437-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e042806	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/28/15 09:52 AM

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected

UJ = Analyte associated with low bias in the CCV and/or LCS.

,,		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	113	70-130	
Toluene-d8	98	70-130	
4-Bromofluorobenzene	94	70-130	



Client Sample ID: Lab Blank Lab ID#: 1504437-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e042806sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/28/15 09:52 AM

Dil. i dotor.	1.00	Date	7 01 Allalysis. 4/20/	713 03.32 AIVI
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Benzene	0.050	Not Detected	0.16	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Toluene	0.020	Not Detected	0.075	Not Detected
1,1,2-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
Ethyl Benzene	0.020	Not Detected	0.087	Not Detected
m,p-Xylene	0.040	Not Detected	0.17	Not Detected
o-Xylene	0.020	Not Detected	0.087	Not Detected
1,1,2,2-Tetrachloroethane	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	114	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	97	70-130	



Bromoform

Propylbenzene

4-Ethyltoluene

1,3,5-Trimethylbenzene

1,2,4-Trimethylbenzene

1,3-Dichlorobenzene

1,4-Dichlorobenzene

alpha-Chlorotoluene

Cumene

Client Sample ID: Lab Blank Lab ID#: 1504437-04C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: Dil. Factor:	v042908 1.00		of Collection: NA of Analysis: 4/29	/15 01:12 PM
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 114	0.10	Not Detected	0.70	Not Detected
Chloromethane	0.50	Not Detected	1.0	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Hexane	0.10	Not Detected	0.35	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
Carbon Tetrachloride	0.10	Not Detected	0.63	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Heptane	0.10	Not Detected	0.41	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Bromodichloromethane	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
2-Hexanone	0.50	Not Detected	2.0	Not Detected
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected
1,2-Dibromoethane (EDB)	0.10	Not Detected	0.77	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected

Not Detected

1.0

0.49

0.49

0.49

0.49

0.49

0.60

0.60

0.52

Not Detected

0.10

0.10

0.10

0.10

0.10

0.10

0.10

0.10

0.10



Client Sample ID: Lab Blank Lab ID#: 1504437-04C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: Dil. Factor:	v042908 1.00	Date of Collection: NA Date of Analysis: 4/29/15 01:12 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected
Container Type: NA - Not App	olicable			
				Method
Surrogates		%Recovery		Limits
1,2-Dichloroethane-d4		103		70-130
Toluene-d8		102		70-130
4-Bromofluorobenzene		94		70-130



Client Sample ID: Lab Blank Lab ID#: 1504437-04D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	v042908sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/29/15 01:12 PM

Dil. I dotor.	1.00	Date	7 OI Allalysis. 4/23/	/13 01.12 F WI
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Benzene	0.050	Not Detected	0.16	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Toluene	0.020	Not Detected	0.075	Not Detected
1,1,2-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
Ethyl Benzene	0.020	Not Detected	0.087	Not Detected
m,p-Xylene	0.040	Not Detected	0.17	Not Detected
o-Xylene	0.020	Not Detected	0.087	Not Detected
1,1,2,2-Tetrachloroethane	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	95	70-130



Client Sample ID: Lab Blank Lab ID#: 1504437-04E

MODIFIED EPA METHOD TO-14A GC/MS

	But I had	Amount Dut Limit Amount
Dil. Factor:	1.00	Date of Analysis: 4/29/15 08:06 PM
File Name:	14042906	Date of Collection: NA

Dil. Factor:	1.00	Date	of Analysis: 4/29	/15 08:06 PM
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	5.0	Not Detected	25	Not Detected
Freon 114	5.0	Not Detected	35	Not Detected
Chloromethane	20	Not Detected	41	Not Detected
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	20	Not Detected	53	Not Detected
Freon 11	5.0	Not Detected	28	Not Detected
Ethanol	20	Not Detected	38	Not Detected
Freon 113	5.0	Not Detected	38	Not Detected
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	Not Detected	48	Not Detected
2-Propanol	20	Not Detected	49	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	5.0	Not Detected	18	Not Detected
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Hexane	5.0	Not Detected	18	Not Detected
1,1-Dichloroethane	5.0	Not Detected	20	Not Detected
2-Butanone (Methyl Ethyl Ketone)	20	Not Detected	59	Not Detected
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	Not Detected	15	Not Detected
Chloroform	5.0	Not Detected	24	Not Detected
1,1,1-Trichloroethane	5.0	Not Detected	27	Not Detected
Cyclohexane	5.0	Not Detected	17	Not Detected
Carbon Tetrachloride	5.0	Not Detected	31	Not Detected
2,2,4-Trimethylpentane	5.0	Not Detected	23	Not Detected
Benzene	5.0	Not Detected	16	Not Detected
1,2-Dichloroethane	5.0	Not Detected	20	Not Detected
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	Not Detected	34	Not Detected
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	5.0	Not Detected	20	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
1,1,2-Trichloroethane	5.0	Not Detected	27	Not Detected
Tetrachloroethene	5.0	Not Detected	34	Not Detected
2-Hexanone	20	Not Detected	82	Not Detected



Client Sample ID: Lab Blank Lab ID#: 1504437-04E

MODIFIED EPA METHOD TO-14A GC/MS

File Name:	14042906	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/29/15 08:06 PM

2	1100	Dute	or Arialyolo. 4/20	10 00.00 1 111
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	5.0	Not Detected	42	Not Detected
1,2-Dibromoethane (EDB)	5.0	Not Detected	38	Not Detected
Chlorobenzene	5.0	Not Detected	23	Not Detected
Ethyl Benzene	5.0	Not Detected	22	Not Detected
m,p-Xylene	5.0	Not Detected	22	Not Detected
o-Xylene	5.0	Not Detected	22	Not Detected
Styrene	5.0	Not Detected	21	Not Detected
Bromoform	5.0	Not Detected	52	Not Detected
Cumene	5.0	Not Detected	24	Not Detected
1,1,2,2-Tetrachloroethane	5.0	Not Detected	34	Not Detected
Propylbenzene	5.0	Not Detected	24	Not Detected
4-Ethyltoluene	5.0	Not Detected	24	Not Detected
1,3,5-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,2,4-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,3-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,4-Dichlorobenzene	5.0	Not Detected	30	Not Detected
alpha-Chlorotoluene	5.0	Not Detected	26	Not Detected
1,2-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,2,4-Trichlorobenzene	20	Not Detected	150	Not Detected
Hexachlorobutadiene	20	Not Detected	210	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130



Client Sample ID: CCV Lab ID#: 1504437-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e042802 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/28/15 06:26 AM

Compound	%Recovery	
Freon 12	96	
Freon 114	99	
Chloromethane	84	
1,3-Butadiene	82	
Bromomethane	80	
Chloroethane	74	
Freon 11	89	
Ethanol	68 Q	
Freon 113	81	
Acetone	67 Q	
2-Propanol	78	
Carbon Disulfide	76	
3-Chloropropene	78	
Methylene Chloride	77	
Hexane	90	
2-Butanone (Methyl Ethyl Ketone)	81	
Tetrahydrofuran	84	
Chloroform	93	
Cyclohexane	86	
Carbon Tetrachloride	104	
2,2,4-Trimethylpentane	85	
Heptane	92	
1,2-Dichloropropane	79	
1,4-Dioxane	89	
Bromodichloromethane	95	
cis-1,3-Dichloropropene	82	
4-Methyl-2-pentanone	86	
trans-1,3-Dichloropropene	88	
2-Hexanone	85	
Dibromochloromethane	101	
1,2-Dibromoethane (EDB)	96	
Chlorobenzene	85	
Styrene	98	
Bromoform	92	
Cumene	97	
Propylbenzene	90	
4-Ethyltoluene	96	
1,3,5-Trimethylbenzene	110	
1,2,4-Trimethylbenzene	92	
1,3-Dichlorobenzene	97	
1,4-Dichlorobenzene	95	
alpha-Chlorotoluene	87	



Client Sample ID: CCV Lab ID#: 1504437-05A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e042802 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/28/15 06:26 AM

Compound	%Recovery	
1,2-Dichlorobenzene	92	
1,2,4-Trichlorobenzene	82	
Hexachlorobutadiene	80	

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	99	70-130



Client Sample ID: CCV Lab ID#: 1504437-05B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e042802sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/28/15 06:26 AM

Compound	%Recovery	
Vinyl Chloride	78	
1,1-Dichloroethene	74	
1,1-Dichloroethane	91	
cis-1,2-Dichloroethene	88	
1,1,1-Trichloroethane	96	
Benzene	76	
1,2-Dichloroethane	103	
Trichloroethene	81	
Toluene	82	
1,1,2-Trichloroethane	88	
Tetrachloroethene	91	
Ethyl Benzene	92	
m,p-Xylene	99	
o-Xylene	101	
1,1,2,2-Tetrachloroethane	75	
trans-1,2-Dichloroethene	91	
Methyl tert-butyl ether	94	

Surrogates	%Recovery	Method Limits
Surrogates	/orecovery	Lillits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130



Client Sample ID: CCV Lab ID#: 1504437-05C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: v042902 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/29/15 08:47 AM

Compound	%Recovery	
Freon 12	109	
Freon 114	106	
Chloromethane	107	
1,3-Butadiene	108	
Bromomethane	117	
Chloroethane	114	
Freon 11	107	
Ethanol	111	
Freon 113	103	
Acetone	105	
2-Propanol	114	
Carbon Disulfide	109	
3-Chloropropene	111	
Methylene Chloride	102	
Hexane	97	
2-Butanone (Methyl Ethyl Ketone)	120	
Tetrahydrofuran	114	
Chloroform	111	
Cyclohexane	106	
Carbon Tetrachloride	106	
2,2,4-Trimethylpentane	108	
Heptane	110	
1,2-Dichloropropane	111	
1,4-Dioxane	114	
Bromodichloromethane	115	
cis-1,3-Dichloropropene	117	
4-Methyl-2-pentanone	118	
trans-1,3-Dichloropropene	111	
2-Hexanone	108	
Dibromochloromethane	110	
1,2-Dibromoethane (EDB)	109	
Chlorobenzene	100	
Styrene	95	
Bromoform	106	
Cumene	97	
Propylbenzene	85	
4-Ethyltoluene	80	
1,3,5-Trimethylbenzene	86	
1,2,4-Trimethylbenzene	94	
1,3-Dichlorobenzene	89	
1,4-Dichlorobenzene	83	
alpha-Chlorotoluene	92	



Client Sample ID: CCV Lab ID#: 1504437-05C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: v042902 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/29/15 08:47 AM

Compound	%Recovery	
1,2-Dichlorobenzene	87	
1,2,4-Trichlorobenzene	104	
Hexachlorobutadiene	80	

,		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	101	70-130



Client Sample ID: CCV Lab ID#: 1504437-05D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: v042902sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/29/15 08:47 AM

Compound	%Recovery	
Vinyl Chloride	102	
1,1-Dichloroethene	104	
1,1-Dichloroethane	110	
cis-1,2-Dichloroethene	100	
1,1,1-Trichloroethane	105	
Benzene	91	
1,2-Dichloroethane	105	
Trichloroethene	101	
Toluene	102	
1,1,2-Trichloroethane	108	
Tetrachloroethene	97	
Ethyl Benzene	100	
m,p-Xylene	96	
o-Xylene	96	
1,1,2,2-Tetrachloroethane	105	
trans-1,2-Dichloroethene	106	
Methyl tert-butyl ether	108	

0	0/ 0	Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130



Client Sample ID: CCV Lab ID#: 1504437-05E

MODIFIED EPA METHOD TO-14A GC/MS

File Name: 14042902 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/29/15 06:17 PM

Freon 12 96 Freon 114 104 Chloromethane 92 Vinyl Chloride 102 1,3-Butadiene 98 Bromomethane 90 Chloroethane 87 Freon 11 100 Ethanol 88 Freon 113 108 1,1-Dichloroethene 96 Acetone 104 2-Propanol 87 Carbon Disulfide 102 3-Chioropropene 93 Methylene Chloride 95 Methylene Chloride 95 Methylene Chloride 95 Methylene Chloride 95 Methylene Chloride 98 1,1-Dichloroethane 98 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethane 90 Tetrahydrofuran 85 Chloroform 96 Cyclohexane 98 Cyclohexane 98 Cyclohexane 90 Eenzene 105 </th <th>Compound</th> <th>%Recovery</th>	Compound	%Recovery
Chloromethane 92 Vinyl Chloride 102 1,3-Butadiene 98 Bromomethane 90 Chloroethane 87 Freon 11 100 Ethanol 88 Freon 113 108 1,1-Dichloroethene 96 Acetone 104 2-Propanol 87 Carbon Disulfide 102 3-Chloropropene 93 Methylene Chloride 95 Methyl tert-butyl ether 111 trans-1,2-Dichloroethene 102 Hexane 93 1,1-Dichloroethane 98 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethene 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Trichloroethane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 T	Freon 12	96
Vinyl Chloride 102 1,3-Butadiene 98 Bromomethane 90 Chloroethane 87 Freon 11 100 Ethanol 88 Freon 113 108 1,1-Dichloroethene 96 Acetone 104 2-Propanol 87 Carbon Disulfide 102 3-Chloropropene 93 Methyl tert-butyl ether 111 trans-1,2-Dichorde 95 Methyl tert-butyl ether 111 trans-1,2-Dichloroethane 98 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethene 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Trichloroethane 98 Cyclohexane 98 Cyclohexane 98 Cyclohoroethane 90 Entrachloride 101 1,2-Dichloroethane 94 Heptane 97 Trichloroethane 97	Freon 114	104
1,3-Butadiene 98 Bromomethane 90 Chloroethane 87 Freon 11 100 Ethanol 88 Freon 113 108 1,1-Dichloroethene 96 Acetone 104 2-Propanol 87 Carbon Disulfide 102 3-Chloropropene 93 Methylere Chloride 95 Methylere Chloride 95 Methyler Echloride 95 Methyler Echloride 93 1,1-Dichloroethene 102 Hexane 93 1,1-Dichloroethane 98 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethane 98 2-Butanone (Methyl Ethyl Ketone) 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Trichloroethane 98 Cyclohexane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105	Chloromethane	92
Bromomethane 90 Chloroethane 87 Freon 11 100 Ethanol 88 Freon 113 108 1,1-Dichloroethene 96 Acetone 104 2-Propanol 87 Carbon Disulfide 102 3-Chloropropene 93 Methylene Chloride 95 Methyl tert-butyl ether 111 Itans-1,2-Dichloroethene 98 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethene 99 Tetrahydrofuran 85 Cyclohexane 98 1,1-I-Trichloroethane 98 Cyclohexane 98 Cyclohexane 99 Cyclohexane 98 Cyclohexane 99 Cyclohexane 90 Cyclohexane 90 Cyclohexane 91 Cyclohexane 90 Cyclohexane 99 Cyclohexane 99 Cyclohexane 99 Cyclohexane 90 Cyclohexane 90	Vinyl Chloride	102
Chloroethane 87 Freon 11 100 Ethanol 88 Freon 113 108 1,1-Dichloroethene 96 Acetone 104 2-Propanol 87 Carbon Disulfide 102 3-Chioropropene 93 Methylene Chloride 95 Methyl tert-butyl ether 111 trans-1,2-Dichloroethene 102 Hexane 93 1,1-Dichloroethane 98 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethene 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Trichloroethane 98 Cycloekaane 98 Ly-Dichloroethane 99 Benzene	1,3-Butadiene	98
Freon 11 100 Ethanol 88 Freon 113 108 1,1-Dichloroethene 96 Acetone 104 2-Propanol 87 Carbon Disulfide 102 3-Chloropropene 93 Methylene Chloride 95 Methylene Chloride 95 Methylene Chloride 90 Hexane 93 1,1-Dichloroethene 102 Hexane 93 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethene 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Tirchloroethane 98 Cyclohexane 98 Cyclohexane 98 Cyclohexane 98 Cyclohexane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Tirchloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 <td>Bromomethane</td> <td>90</td>	Bromomethane	90
Ethanol 88 Freon 113 108 1,1-Dichloroethene 96 Acetone 104 2-Propanol 87 Carbon Disulfide 102 3-Chloropropene 93 Methylene Chloride 95 Methyl tert-butyl ether 111 trans-1,2-Dichloroethene 102 Hexane 93 1,1-Dichloroethane 98 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethene 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Trichloroethane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethane 97 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 </td <td>Chloroethane</td> <td>87</td>	Chloroethane	87
Freon 113 108 1,1-Dichloroethene 96 Acetone 104 2-Propanol 87 Carbon Disulfide 102 3-Chloropropene 93 Methylene Chloride 95 Methyl tert-butyl ether 111 trans-1,2-Dichloroethene 102 Hexane 93 1,1-Dichloroethane 98 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethene 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Tirchloroethane 98 Cyclohexane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 97 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 9	Freon 11	100
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Acetone 104 2-Propanol 87 Carbon Disulfide 102 3-Chloropropene 93 Methylene Chloride 95 Methyl tert-butyl ether 111 trans-1,2-Dichloroethene 102 Hexane 93 1,1-Dichloroethane 98 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethene 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Trichloroethane 98 Cyclohexane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 98 4-Methyl-2-pentanone 99 Injury Trichloroethane <td>Freon 113</td> <td>108</td>	Freon 113	108
2-Propanol 87 Carbon Disulfide 102 3-Chloropropene 93 Methylene Chloride 95 Methylene Chloride 111 trans-1,2-Dichloroethene 102 Hexane 93 1,1-Dichloroethane 98 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethene 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Trichloroethane 98 Cyclohexane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 98 4-Methyl-2-pentanone 99 1,0ene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 <td>1,1-Dichloroethene</td> <td>96</td>	1,1-Dichloroethene	96
Carbon Disulfide 102 3-Chloropropene 93 Methylene Chloride 95 Methyl tert-butyl ether 111 trans-1,2-Dichloroethene 102 Hexane 93 1,1-Dichloroethane 98 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethene 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Trichloroethane 98 Cyclohexane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 98 10uene 101 1,1,2-Trichloroethane 97 Tetrachloroethane 102	Acetone	104
Carbon Disulfide 102 3-Chloropropene 93 Methylene Chloride 95 Methyl tert-butyl ether 111 trans-1,2-Dichloroethene 102 Hexane 93 1,1-Dichloroethane 98 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethene 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Trichloroethane 98 Cyclohexane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 98 1,0uene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachlo	2-Propanol	87
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Methyl tert-butyl ether 111 trans-1,2-Dichloroethene 102 Hexane 93 1,1-Dichloroethane 98 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethene 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Trichloroethane 98 Cyclohexane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 97 1,1,2-Trichloroethane 102 Tetrachloroethene 102	3-Chloropropene	93
Methyl tert-butyl ether 111 trans-1,2-Dichloroethene 102 Hexane 93 1,1-Dichloroethane 98 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethene 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Trichloroethane 98 Cyclohexane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 98 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	Methylene Chloride	95
Hexane 93 1,1-Dichloroethane 98 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethene 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Trichloroethane 98 Cyclohexane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105		111
1,1-Dichloroethane 98 2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethene 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Trichloroethane 98 Cyclohexane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Tolluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	trans-1,2-Dichloroethene	102
2-Butanone (Methyl Ethyl Ketone) 97 cis-1,2-Dichloroethene 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Trichloroethane 98 Cyclohexane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	Hexane	93
cis-1,2-Dichloroethene 90 Tetrahydrofuran 85 Chloroform 96 1,1,1-Trichloroethane 98 Cyclohexane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	1,1-Dichloroethane	98
Tetrahydrofuran 85 Chloroform 96 1,1,1-Trichloroethane 98 Cyclohexane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	2-Butanone (Methyl Ethyl Ketone)	97
Chloroform 96 1,1,1-Trichloroethane 98 Cyclohexane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	cis-1,2-Dichloroethene	90
1,1,1-Trichloroethane 98 Cyclohexane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	Tetrahydrofuran	85
Cyclohexane 98 Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	Chloroform	96
Carbon Tetrachloride 101 2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	1,1,1-Trichloroethane	98
2,2,4-Trimethylpentane 90 Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	Cyclohexane	98
Benzene 105 1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Tolluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	Carbon Tetrachloride	101
1,2-Dichloroethane 94 Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	2,2,4-Trimethylpentane	90
Heptane 97 Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	Benzene	105
Trichloroethene 92 1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	1,2-Dichloroethane	94
1,2-Dichloropropane 100 1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	Heptane	97
1,4-Dioxane 103 Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	Trichloroethene	92
Bromodichloromethane 97 cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	1,2-Dichloropropane	100
cis-1,3-Dichloropropene 98 4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105		103
4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	Bromodichloromethane	97
4-Methyl-2-pentanone 93 Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105	cis-1,3-Dichloropropene	98
Toluene 101 trans-1,3-Dichloropropene 97 1,1,2-Trichloroethane 102 Tetrachloroethene 105		93
1,1,2-Trichloroethane102Tetrachloroethene105		101
1,1,2-Trichloroethane102Tetrachloroethene105	trans-1,3-Dichloropropene	97
	1,1,2-Trichloroethane	102
2-Hexanone 92	Tetrachloroethene	105
	2-Hexanone	92



Client Sample ID: CCV Lab ID#: 1504437-05E

MODIFIED EPA METHOD TO-14A GC/MS

File Name: 14042902 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/29/15 06:17 PM

Compound	%Recovery	
Dibromochloromethane	105	
1,2-Dibromoethane (EDB)	104	
Chlorobenzene	101	
Ethyl Benzene	96	
m,p-Xylene	101	
o-Xylene	96	
Styrene	108	
Bromoform	108	
Cumene	100	
1,1,2,2-Tetrachloroethane	120	
Propylbenzene	102	
4-Ethyltoluene	103	
1,3,5-Trimethylbenzene	110	
1,2,4-Trimethylbenzene	102	
1,3-Dichlorobenzene	102	
1,4-Dichlorobenzene	102	
alpha-Chlorotoluene	99	
1,2-Dichlorobenzene	102	
1,2,4-Trichlorobenzene	80	
Hexachlorobutadiene	92	

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	87	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	103	70-130	



Client Sample ID: LCS Lab ID#: 1504437-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e042803 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/28/15 07:09 AM

		Method
Compound	%Recovery	Limits
Freon 12	102	70-130
Freon 114	106	70-130
Chloromethane	87	70-130
1,3-Butadiene	83	70-130
Bromomethane	80	70-130
Chloroethane	82	70-130
Freon 11	95	70-130
Ethanol	78	70-130
Freon 113	85	70-130
Acetone	71	70-130
2-Propanol	91	70-130
Carbon Disulfide	67 Q	70-130
3-Chloropropene	78	70-130
Methylene Chloride	79	70-130
Hexane	92	70-130
2-Butanone (Methyl Ethyl Ketone)	86	70-130
Tetrahydrofuran	88	70-130
Chloroform	96	70-130
Cyclohexane	90	70-130
Carbon Tetrachloride	104	70-130
2,2,4-Trimethylpentane	85	70-130
Heptane	96	70-130
1,2-Dichloropropane	86	70-130
1,4-Dioxane	97	70-130
Bromodichloromethane	101	70-130
cis-1,3-Dichloropropene	80	70-130
4-Methyl-2-pentanone	94	70-130
trans-1,3-Dichloropropene	93	70-130
2-Hexanone	95	70-130
Dibromochloromethane	106	70-130
1,2-Dibromoethane (EDB)	101	70-130
Chlorobenzene	92	70-130
Styrene	109	70-130
Bromoform	103	70-130
Cumene	103	70-130
Propylbenzene	100	70-130
4-Ethyltoluene	104	70-130
1,3,5-Trimethylbenzene	118	70-130
1,2,4-Trimethylbenzene	99	70-130
1,3-Dichlorobenzene	104	70-130
1,4-Dichlorobenzene	101	70-130
alpha-Chlorotoluene	109	70-130



Client Sample ID: LCS Lab ID#: 1504437-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e042803 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/28/15 07:09 AM

		Wethod	
Compound	%Recovery	Limits	
1,2-Dichlorobenzene	101	70-130	
1,2,4-Trichlorobenzene	100	70-130	
Hexachlorobutadiene	84	70-130	

Q = Exceeds Quality Control limits.

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	107	70-130	
Toluene-d8	94	70-130	
4-Bromofluorobenzene	99	70-130	



Client Sample ID: LCSD Lab ID#: 1504437-06AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e042804 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/28/15 07:50 AM

		Method
Compound	%Recovery	Limits
Freon 12	100	70-130
Freon 114	105	70-130
Chloromethane	89	70-130
1,3-Butadiene	89	70-130
Bromomethane	82	70-130
Chloroethane	81	70-130
Freon 11	94	70-130
Ethanol	79	70-130
Freon 113	84	70-130
Acetone	66 Q	70-130
2-Propanol	91	70-130
Carbon Disulfide	65 Q	70-130
3-Chloropropene	79	70-130
Methylene Chloride	79	70-130
Hexane	94	70-130
2-Butanone (Methyl Ethyl Ketone)	84	70-130
Tetrahydrofuran	88	70-130
Chloroform	93	70-130
Cyclohexane	88	70-130
Carbon Tetrachloride	103	70-130
2,2,4-Trimethylpentane	86	70-130
Heptane	100	70-130
1,2-Dichloropropane	85	70-130
1,4-Dioxane	97	70-130
Bromodichloromethane	102	70-130
cis-1,3-Dichloropropene	79	70-130
4-Methyl-2-pentanone	93	70-130
trans-1,3-Dichloropropene	94	70-130
2-Hexanone	94	70-130
Dibromochloromethane	106	70-130
1,2-Dibromoethane (EDB)	102	70-130
Chlorobenzene	90	70-130
Styrene	106	70-130
Bromoform	99	70-130
Cumene	102	70-130
Propylbenzene	98	70-130
4-Ethyltoluene	104	70-130
1,3,5-Trimethylbenzene	119	70-130
1,2,4-Trimethylbenzene	99	70-130
1,3-Dichlorobenzene	102	70-130
1,4-Dichlorobenzene	103	70-130
alpha-Chlorotoluene	108	70-130



Client Sample ID: LCSD Lab ID#: 1504437-06AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e042804	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/28/15 07:50 AM

Compound	%Recovery	Method Limits
1,2-Dichlorobenzene	101	70-130
1,2,4-Trichlorobenzene	100	70-130
Hexachlorobutadiene	84	70-130

Q = Exceeds Quality Control limits.

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	105	70-130	
Toluene-d8	95	70-130	
4-Bromofluorobenzene	97	70-130	



Client Sample ID: LCS Lab ID#: 1504437-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e042803sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/28/15 07:09 AM

		Method	
Compound	%Recovery	Limits	
Vinyl Chloride	88	70-130	
1,1-Dichloroethene	81	70-130	
1,1-Dichloroethane	96	70-130	
cis-1,2-Dichloroethene	103	70-130	
1,1,1-Trichloroethane	103	70-130	
Benzene	81	70-130	
1,2-Dichloroethane	109	70-130	
Trichloroethene	88	70-130	
Toluene	89	70-130	
1,1,2-Trichloroethane	93	70-130	
Tetrachloroethene	97	70-130	
Ethyl Benzene	99	70-130	
m,p-Xylene	107	70-130	
o-Xylene	111	70-130	
1,1,2,2-Tetrachloroethane	81	70-130	
trans-1,2-Dichloroethene	83	70-130	
Methyl tert-butyl ether	94	70-130	

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	111	70-130	
Toluene-d8	98	70-130	
4-Bromofluorobenzene	100	70-130	



Client Sample ID: LCSD Lab ID#: 1504437-06BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e042804sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/28/15 07:50 AM

Compound	%Recovery	Method Limits	
Vinyl Chloride	86	70-130	
1,1-Dichloroethene	81	70-130	
1,1-Dichloroethane	94	70-130	
cis-1,2-Dichloroethene	101	70-130	
1,1,1-Trichloroethane	102	70-130	
Benzene	80	70-130	
1,2-Dichloroethane	108	70-130	
Trichloroethene	86	70-130	
Toluene	87	70-130	
1,1,2-Trichloroethane	91	70-130	
Tetrachloroethene	96	70-130	
Ethyl Benzene	99	70-130	
m,p-Xylene	107	70-130	
o-Xylene	110	70-130	
1,1,2,2-Tetrachloroethane	80	70-130	
trans-1,2-Dichloroethene	83	70-130	
Methyl tert-butyl ether	93	70-130	

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	112	70-130	
Toluene-d8	97	70-130	
4-Bromofluorobenzene	101	70-130	



Client Sample ID: LCS Lab ID#: 1504437-06C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: v042903 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/29/15 09:29 AM

		Method
Compound	%Recovery	Limits
Freon 12	111	70-130
Freon 114	112	70-130
Chloromethane	107	70-130
1,3-Butadiene	108	70-130
Bromomethane	114	70-130
Chloroethane	120	70-130
Freon 11	109	70-130
Ethanol	123	70-130
Freon 113	102	70-130
Acetone	104	70-130
2-Propanol	120	70-130
Carbon Disulfide	95	70-130
3-Chloropropene	104	70-130
Methylene Chloride	103	70-130
Hexane	97	70-130
2-Butanone (Methyl Ethyl Ketone)	116	70-130
Tetrahydrofuran	115	70-130
Chloroform	110	70-130
Cyclohexane	108	70-130
Carbon Tetrachloride	109	70-130
2,2,4-Trimethylpentane	108	70-130
Heptane	112	70-130
1,2-Dichloropropane	110	70-130
1,4-Dioxane	111	70-130
Bromodichloromethane	114	70-130
cis-1,3-Dichloropropene	107	70-130
4-Methyl-2-pentanone	126	70-130
trans-1,3-Dichloropropene	110	70-130
2-Hexanone	114	70-130
Dibromochloromethane	104	70-130
1,2-Dibromoethane (EDB)	106	70-130
Chlorobenzene	102	70-130
Styrene	107	70-130
Bromoform	104	70-130
Cumene	104	70-130
Propylbenzene	100	70-130
4-Ethyltoluene	95	70-130
1,3,5-Trimethylbenzene	92	70-130
1,2,4-Trimethylbenzene	98	70-130
1,3-Dichlorobenzene	99	70-130
1,4-Dichlorobenzene	94	70-130
alpha-Chlorotoluene	116	70-130



Client Sample ID: LCS Lab ID#: 1504437-06C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	v042903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/29/15 09:29 AM

Compound	%Recovery	Method Limits
1,2-Dichlorobenzene	97	70-130
1,2,4-Trichlorobenzene	103	70-130
Hexachlorobutadiene	90	70-130

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	101	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	104	70-130	



Client Sample ID: LCSD Lab ID#: 1504437-06CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: v042904 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/29/15 10:14 AM

		Method
Compound	%Recovery	Limits
Freon 12	108	70-130
Freon 114	108	70-130
Chloromethane	106	70-130
1,3-Butadiene	104	70-130
Bromomethane	112	70-130
Chloroethane	120	70-130
Freon 11	107	70-130
Ethanol	132 Q	70-130
Freon 113	100	70-130
Acetone	100	70-130
2-Propanol	119	70-130
Carbon Disulfide	94	70-130
3-Chloropropene	103	70-130
Methylene Chloride	98	70-130
Hexane	97	70-130
2-Butanone (Methyl Ethyl Ketone)	119	70-130
Tetrahydrofuran	114	70-130
Chloroform	106	70-130
Cyclohexane	105	70-130
Carbon Tetrachloride	108	70-130
2,2,4-Trimethylpentane	104	70-130
Heptane	110	70-130
1,2-Dichloropropane	112	70-130
1,4-Dioxane	114	70-130
Bromodichloromethane	118	70-130
cis-1,3-Dichloropropene	111	70-130
4-Methyl-2-pentanone	126	70-130
trans-1,3-Dichloropropene	112	70-130
2-Hexanone	114	70-130
Dibromochloromethane	109	70-130
1,2-Dibromoethane (EDB)	109	70-130
Chlorobenzene	99	70-130
Styrene	96	70-130
Bromoform	107	70-130
Cumene	100	70-130
Propylbenzene	92	70-130
4-Ethyltoluene	90	70-130
1,3,5-Trimethylbenzene	90	70-130
1,2,4-Trimethylbenzene	100	70-130
1,3-Dichlorobenzene	92	70-130
1,4-Dichlorobenzene	90	70-130
alpha-Chlorotoluene	108	70-130



Client Sample ID: LCSD Lab ID#: 1504437-06CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	v042904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/29/15 10:14 AM

		Wethod	
Compound	%Recovery	Limits	
1,2-Dichlorobenzene	88	70-130	
1,2,4-Trichlorobenzene	102	70-130	
Hexachlorobutadiene	82	70-130	

Q = Exceeds Quality Control limits.

		Method Limits
Surrogates	%Recovery	
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	99	70-130



Client Sample ID: LCS Lab ID#: 1504437-06D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: v042903sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/29/15 09:29 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	106	70-130
1,1-Dichloroethene	105	70-130
1,1-Dichloroethane	110	70-130
cis-1,2-Dichloroethene	112	70-130
1,1,1-Trichloroethane	106	70-130
Benzene	91	70-130
1,2-Dichloroethane	104	70-130
Trichloroethene	101	70-130
Toluene	104	70-130
1,1,2-Trichloroethane	105	70-130
Tetrachloroethene	96	70-130
Ethyl Benzene	105	70-130
m,p-Xylene	105	70-130
o-Xylene	108	70-130
1,1,2,2-Tetrachloroethane	104	70-130
trans-1,2-Dichloroethene	92	70-130
Methyl tert-butyl ether	107	70-130

Surrogates		Method Limits
	%Recovery	
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	110	70-130



Client Sample ID: LCSD Lab ID#: 1504437-06DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: v042904sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/29/15 10:14 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	106	70-130
1,1-Dichloroethene	106	70-130
1,1-Dichloroethane	111	70-130
cis-1,2-Dichloroethene	112	70-130
1,1,1-Trichloroethane	105	70-130
Benzene	92	70-130
1,2-Dichloroethane	106	70-130
Trichloroethene	102	70-130
Toluene	103	70-130
1,1,2-Trichloroethane	106	70-130
Tetrachloroethene	98	70-130
Ethyl Benzene	101	70-130
m,p-Xylene	97	70-130
o-Xylene	98	70-130
1,1,2,2-Tetrachloroethane	105	70-130
trans-1,2-Dichloroethene	92	70-130
Methyl tert-butyl ether	107	70-130

Surrogates		Method	
	%Recovery	Limits	
1,2-Dichloroethane-d4	104	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	103	70-130	



Client Sample ID: LCS Lab ID#: 1504437-06E

MODIFIED EPA METHOD TO-14A GC/MS

File Name: 14042903 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/29/15 06:52 PM

		Method
Compound	%Recovery	Limits
Freon 12	106	70-130
Freon 114	117	70-130
Chloromethane	93	70-130
Vinyl Chloride	115	70-130
1,3-Butadiene	105	70-130
Bromomethane	97	70-130
Chloroethane	97	70-130
Freon 11	109	70-130
Ethanol	85	70-130
Freon 113	110	70-130
1,1-Dichloroethene	97	70-130
Acetone	100	70-130
2-Propanol	90	70-130
Carbon Disulfide	94	70-130
3-Chloropropene	92	70-130
Methylene Chloride	97	70-130
Methyl tert-butyl ether	108	70-130
trans-1,2-Dichloroethene	91	70-130
Hexane	95	70-130
1,1-Dichloroethane	98	70-130
2-Butanone (Methyl Ethyl Ketone)	95	70-130
cis-1,2-Dichloroethene	102	70-130
Tetrahydrofuran	87	70-130
Chloroform	101	70-130
1,1,1-Trichloroethane	98	70-130
Cyclohexane	102	70-130
Carbon Tetrachloride	102	70-130
2,2,4-Trimethylpentane	93	70-130
Benzene	112	70-130
1,2-Dichloroethane	101	70-130
Heptane	103	70-130
Trichloroethene	102	70-130
1,2-Dichloropropane	104	70-130
1,4-Dioxane	103	70-130
Bromodichloromethane	107	70-130
cis-1,3-Dichloropropene	94	70-130
4-Methyl-2-pentanone	91	70-130
Toluene	106	70-130
trans-1,3-Dichloropropene	94	70-130
1,1,2-Trichloroethane	104	70-130
Tetrachloroethene	110	70-130
2-Hexanone	88	70-130



Client Sample ID: LCS Lab ID#: 1504437-06E

MODIFIED EPA METHOD TO-14A GC/MS

File Name: 14042903 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/29/15 06:52 PM

		Method
Compound	%Recovery	Limits
Dibromochloromethane	113	70-130
1,2-Dibromoethane (EDB)	108	70-130
Chlorobenzene	106	70-130
Ethyl Benzene	107	70-130
m,p-Xylene	105	70-130
o-Xylene	103	70-130
Styrene	110	70-130
Bromoform	111	70-130
Cumene	104	70-130
1,1,2,2-Tetrachloroethane	128	70-130
Propylbenzene	111	70-130
4-Ethyltoluene	110	70-130
1,3,5-Trimethylbenzene	114	70-130
1,2,4-Trimethylbenzene	107	70-130
1,3-Dichlorobenzene	110	70-130
1,4-Dichlorobenzene	109	70-130
alpha-Chlorotoluene	101	70-130
1,2-Dichlorobenzene	111	70-130
1,2,4-Trichlorobenzene	101	70-130
Hexachlorobutadiene	120	70-130

		Method Limits
Surrogates	%Recovery	
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130



Client Sample ID: LCSD Lab ID#: 1504437-06EE

MODIFIED EPA METHOD TO-14A GC/MS

File Name: 14042904 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/29/15 07:21 PM

	Method
%Recovery	Limits
106	70-130
114	70-130
94	70-130
112	70-130
102	70-130
100	70-130
92	70-130
109	70-130
79	70-130
114	70-130
100	70-130
103	70-130
87	70-130
93	70-130
88	70-130
96	70-130
105	70-130
94	70-130
92	70-130
99	70-130
94	70-130
97	70-130
84	70-130
98	70-130
98	70-130
99	70-130
108	70-130
94	70-130
108	70-130
99	70-130
100	70-130
97	70-130
102	70-130
104	70-130
104	70-130
93	70-130
90	70-130
102	70-130
93	70-130
105	70-130
111	70-130
85	70-130
	106 1114 94 112 102 100 92 109 79 114 100 103 87 93 88 96 105 94 92 99 94 97 84 98 98 99 108 98 99 108 94 108 99 100 97 102 104 104 93 90 102 93 105 111



Client Sample ID: LCSD Lab ID#: 1504437-06EE

MODIFIED EPA METHOD TO-14A GC/MS

File Name: 14042904 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 4/29/15 07:21 PM

	%Recovery	Method Limits
Compound		
Dibromochloromethane	108	70-130
1,2-Dibromoethane (EDB)	109	70-130
Chlorobenzene	105	70-130
Ethyl Benzene	102	70-130
m,p-Xylene	104	70-130
o-Xylene	105	70-130
Styrene	109	70-130
Bromoform	109	70-130
Cumene	102	70-130
1,1,2,2-Tetrachloroethane	121	70-130
Propylbenzene	107	70-130
4-Ethyltoluene	105	70-130
1,3,5-Trimethylbenzene	111	70-130
1,2,4-Trimethylbenzene	101	70-130
1,3-Dichlorobenzene	110	70-130
1,4-Dichlorobenzene	107	70-130
alpha-Chlorotoluene	100	70-130
1,2-Dichlorobenzene	108	70-130
1,2,4-Trichlorobenzene	99	70-130
Hexachlorobutadiene	120	70-130

Surrogates		Method	
	%Recovery	Limits	
1,2-Dichloroethane-d4	87	70-130	
Toluene-d8	95	70-130	
4-Bromofluorobenzene	102	70-130	



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle 5755 8th Street East Tacoma, WA 98424 Tel: (253)922-2310

TestAmerica Job ID: 580-49583-1 Client Project/Site: Mecox/Aecom

Revision: 1

For:

URS Corporation 111 SW Columbia Suite 1500 Portland, Oregon 97201-5814

Attn: Mr. Stephen Roberts

Sant Murphy

Authorized for release by: 5/19/2015 1:28:53 PM

Sarah Murphy, Project Manager I (253)922-2310

sarah.murphy@testamericainc.com

..... LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: URS Corporation Project/Site: Mecox/Aecom

TestAmerica Job ID: 580-49583-1

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Case Narrative

Client: URS Corporation Project/Site: Mecox/Aecom

TestAmerica Job ID: 580-49583-1

Job ID: 580-49583-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-49583-1

Comments:

Report revised 05/19/2015 to include data for Selenium.

Receipt

The sample was received on 5/5/2015 2:00 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.9° C.

GC/MS VOA

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 188855 recovered above the upper control limit for Styrene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: (CCVIS 580-188855/2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270C SIM, 8270D SIM: The following analyte(s) recovered outside control limits for the LCSD associated with Prep Batch 189040: Phenanthrene. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported. Affected samples: Rail Spur Sump (580-49583-1), (LCS 580-189040/2-A), (LCSD 580-189040/3-A) and (580-49433-B-18-H)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) NWTPH-Dx: In analysis batch 580-189368, the peak profile present in this sample Rail Spur Sump (580-49583-1) is atypical of a hydrocarbon pattern and consists of 5-6 discrete peaks in the #2 Diesel (C10-C24) and Motor Oil (>C24-C36) ranges.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Definitions/Glossary

Client: URS Corporation Project/Site: Mecox/Aecom

TestAmerica Job ID: 580-49583-1

Qualifiers

GC/MS VOA

Qualifier **Qualifier Description**

ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

GC/MS Semi VOA

Qualifier **Qualifier Description**

MS and/or MSD Recovery is outside acceptance limits.

LCS or LCSD is outside acceptance limits.

GC Semi VOA

Qualifier **Qualifier Description** Z The chromatographic response does not resemble a typical fuel pattern. F5 Duplicate RPD exceeds limit, and one or both sample results are less than 5 times RL. The data are considered valid because the

absolute difference is less than the RL.

Metals

Qualifier **Qualifier Description** MS and/or MSD Recovery is outside acceptance limits. F3 Duplicate RPD exceeds the control limit

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDΔ	Minimum detectable activity

Minimum detectable activity **EDL Estimated Detection Limit** MDC Minimum detectable concentration

MDL Method Detection Limit ML Minimum Level (Dioxin)

NC Not Calculated

ND Not detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

QC **Quality Control RER** Relative error ratio

Reporting Limit or Requested Limit (Radiochemistry) RL

Relative Percent Difference, a measure of the relative difference between two points **RPD**

TEF Toxicity Equivalent Factor (Dioxin) **TEQ** Toxicity Equivalent Quotient (Dioxin)

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Client Sample Results

Client: URS Corporation Project/Site: Mecox/Aecom

Date Collected: 05/05/15 10:15 Date Received: 05/05/15 14:00

Client Sample ID: Rail Spur Sump

TestAmerica Job ID: 580-49583-1

Lab Sample ID: 580-49583-1

Matrix: Solid
Percent Solids: 83.2

Method: 8260C - Volatile On				MIDI	Unit	_	Dronovod	Analysed	Di F-
Analyte		Qualifier	RL	MDL	Unit	— D <u>₩</u>	Prepared	Analyzed	Dil Fa
Dichlorodifluoromethane	ND		34.3		ug/Kg	☆		05/07/15 16:50	
Chloromethane	ND		85.8		ug/Kg			05/07/15 16:50	
Vinyl chloride	ND		13.7		ug/Kg			05/07/15 16:50	
Bromomethane	ND		120		ug/Kg	☆		05/07/15 16:50	
Chloroethane	ND		343		ug/Kg			05/07/15 16:50	
Trichlorofluoromethane	ND		34.3		ug/Kg	<u>.</u> .		05/07/15 16:50	
1,1-Dichloroethene	ND		17.2		ug/Kg	☆		05/07/15 16:50	
Methylene Chloride	ND		21.4		ug/Kg	*		05/07/15 16:50	
trans-1,2-Dichloroethene	ND		34.3		ug/Kg			05/07/15 16:50	
1,1-Dichloroethane	ND		34.3		ug/Kg	₩	05/07/15 12:38	05/07/15 16:50	
2,2-Dichloropropane	ND		34.3		ug/Kg	≎	05/07/15 12:38	05/07/15 16:50	
cis-1,2-Dichloroethene	ND		34.3		ug/Kg	≎	05/07/15 12:38	05/07/15 16:50	
Bromochloromethane	ND		34.3		ug/Kg	₽	05/07/15 12:38	05/07/15 16:50	
Chloroform	ND		34.3		ug/Kg	₩	05/07/15 12:38	05/07/15 16:50	
1,1,1-Trichloroethane	ND		34.3		ug/Kg	₩	05/07/15 12:38	05/07/15 16:50	
Carbon tetrachloride	ND		17.2		ug/Kg	₽	05/07/15 12:38	05/07/15 16:50	
1,1-Dichloropropene	ND		34.3		ug/Kg	₽	05/07/15 12:38	05/07/15 16:50	
Benzene	ND		13.7		ug/Kg	₩	05/07/15 12:38	05/07/15 16:50	
1,2-Dichloroethane	ND		13.7		ug/Kg		05/07/15 12:38	05/07/15 16:50	
Trichloroethene	ND		20.6		ug/Kg	≎	05/07/15 12:38	05/07/15 16:50	
1,2-Dichloropropane	ND		10.3		ug/Kg	≎	05/07/15 12:38	05/07/15 16:50	
Dibromomethane	ND		51.5		ug/Kg	ф	05/07/15 12:38	05/07/15 16:50	
Bromodichloromethane	ND		34.3		ug/Kg	₩	05/07/15 12:38	05/07/15 16:50	
cis-1,3-Dichloropropene	ND		13.7		ug/Kg	₩	05/07/15 12:38	05/07/15 16:50	
Toluene	ND		34.3		ug/Kg		05/07/15 12:38	05/07/15 16:50	
trans-1,3-Dichloropropene	ND		34.3		ug/Kg	₽	05/07/15 12:38	05/07/15 16:50	
1,1,2-Trichloroethane	ND		10.3		ug/Kg	₽		05/07/15 16:50	
Tetrachloroethene	ND		17.2		ug/Kg	 ☆		05/07/15 16:50	
1,3-Dichloropropane	ND		34.3		ug/Kg	₩		05/07/15 16:50	
Dibromochloromethane	ND		17.2		ug/Kg	₩		05/07/15 16:50	
1,2-Dibromoethane	ND		13.7		ug/Kg			05/07/15 16:50	
Chlorobenzene	ND		34.3		ug/Kg	₽		05/07/15 16:50	
Ethylbenzene	ND ND		34.3		ug/Kg	₽		05/07/15 16:50	
1,1,1,2-Tetrachloroethane	ND		34.3		ug/Kg ug/Kg			05/07/15 16:50	
1,1,2,2-Tetrachloroethane	ND ND		8.58					05/07/15 16:50	
					ug/Kg				
m-Xylene & p-Xylene	ND		34.3		ug/Kg	% .		05/07/15 16:50	
o-Xylene	ND	•	34.3		ug/Kg	*		05/07/15 16:50	
Styrene	ND	N .	34.3		ug/Kg	₩		05/07/15 16:50	
Bromoform	ND		34.3		ug/Kg			05/07/15 16:50	
Isopropylbenzene	ND		34.3		ug/Kg	φ.		05/07/15 16:50	
Bromobenzene	ND		34.3		ug/Kg	.;.		05/07/15 16:50	
N-Propylbenzene	ND		34.3		ug/Kg	T.		05/07/15 16:50	
1,2,3-Trichloropropane	ND		34.3		ug/Kg	*		05/07/15 16:50	
2-Chlorotoluene	ND		34.3		ug/Kg	₽		05/07/15 16:50	
1,3,5-Trimethylbenzene	ND		34.3		ug/Kg	☼		05/07/15 16:50	
4-Chlorotoluene	ND		34.3		ug/Kg	₽	05/07/15 12:38	05/07/15 16:50	
•	ND		34.3		ug/Kg	₩	05/07/15 12:38	05/07/15 16:50	
1,2,4-Trimethylbenzene	ND		34.3		ug/Kg	☼	05/07/15 12:38	05/07/15 16:50	
t-Butylbenzene 1,2,4-Trimethylbenzene sec-Butylbenzene								05/07/15 1	6:50

TestAmerica Seattle

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5/19/2015

Client: URS Corporation Project/Site: Mecox/Aecom

Olivet Overelle ID Deil Overe

Client Sample ID: Rail Spur Sump

Lab Sample ID: 580-49583-1

 Date Collected: 05/05/15 10:15
 Matrix: Solid

 Date Received: 05/05/15 14:00
 Percent Solids: 83.2

Method: 8260C - Volatile O	rganic Compound	ds by GC/MS (Cont	inued)					
Analyte	Result Qu	ıalifier RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND ND	51.5		ug/Kg	₩	05/07/15 12:38	05/07/15 16:50	1
4-Isopropyltoluene	ND	34.3		ug/Kg	☼	05/07/15 12:38	05/07/15 16:50	1
1,4-Dichlorobenzene	ND	51.5		ug/Kg	₽	05/07/15 12:38	05/07/15 16:50	1
n-Butylbenzene	ND	34.3		ug/Kg	₽	05/07/15 12:38	05/07/15 16:50	1
1,2-Dichlorobenzene	ND	34.3		ug/Kg	₩	05/07/15 12:38	05/07/15 16:50	1
1,2-Dibromo-3-Chloropropane	ND	172		ug/Kg	₽	05/07/15 12:38	05/07/15 16:50	1
1,2,4-Trichlorobenzene	ND	34.3		ug/Kg	☼	05/07/15 12:38	05/07/15 16:50	1
1,2,3-Trichlorobenzene	ND	34.3		ug/Kg	☼	05/07/15 12:38	05/07/15 16:50	1
Hexachlorobutadiene	ND	68.6		ug/Kg		05/07/15 12:38	05/07/15 16:50	1
Naphthalene	ND	34.3		ug/Kg	☼	05/07/15 12:38	05/07/15 16:50	1
Methyl tert-butyl ether	ND	34.3		ug/Kg	₩	05/07/15 12:38	05/07/15 16:50	1
Surrogate	%Recovery Qu	ualifier Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100	80 - 120				05/07/15 12:38	05/07/15 16:50	1
4-Bromofluorobenzene (Surr)	101	70 - 120				05/07/15 12:38	05/07/15 16:50	1
Dibromofluoromethane (Surr)	101	75 - 132				05/07/15 12:38	05/07/15 16:50	1
Trifluorotoluene (Surr)	106	65 - 140				05/07/15 12:38	05/07/15 16:50	1
1,2-Dichloroethane-d4 (Surr)	102	71 - 136				05/07/15 12:38	05/07/15 16:50	1

Analyte	Result C	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		11.4		ug/Kg	-	05/09/15 14:21	05/12/15 16:03	1
2-Methylnaphthalene	ND		5.68		ug/Kg	₩	05/09/15 14:21	05/12/15 16:03	1
Acenaphthene	20.6		5.68		ug/Kg	₩	05/09/15 14:21	05/12/15 16:03	1
Acenaphthylene	12.0		5.68		ug/Kg	₽	05/09/15 14:21	05/12/15 16:03	1
Anthracene	34.5		5.68		ug/Kg	₩	05/09/15 14:21	05/12/15 16:03	1
Benzo[a]anthracene	217		11.4		ug/Kg	₩	05/09/15 14:21	05/12/15 16:03	1
Benzo[a]pyrene	280		5.68		ug/Kg	₽	05/09/15 14:21	05/12/15 16:03	1
Benzo[b]fluoranthene	407		11.4		ug/Kg	₩	05/09/15 14:21	05/12/15 16:03	1
Benzo[g,h,i]perylene	238		11.4		ug/Kg	₩	05/09/15 14:21	05/12/15 16:03	1
Benzo[k]fluoranthene	155		11.4		ug/Kg	φ.	05/09/15 14:21	05/12/15 16:03	1
Chrysene	288		5.68		ug/Kg	☼	05/09/15 14:21	05/12/15 16:03	1
Dibenz(a,h)anthracene	61.5		5.68		ug/Kg	₩	05/09/15 14:21	05/12/15 16:03	1
Fluoranthene	345		5.68		ug/Kg	₩.	05/09/15 14:21	05/12/15 16:03	1
Fluorene	9.26		5.68		ug/Kg	☼	05/09/15 14:21	05/12/15 16:03	1
Indeno[1,2,3-cd]pyrene	291		5.68		ug/Kg	☼	05/09/15 14:21	05/12/15 16:03	1
Naphthalene	ND		11.4		ug/Kg	₩.	05/09/15 14:21	05/12/15 16:03	1
Phenanthrene	111 *		11.4		ug/Kg	☼	05/09/15 14:21	05/12/15 16:03	1
Pyrene	304		11.4		ug/Kg	≎	05/09/15 14:21	05/12/15 16:03	1
Surrogate	%Recovery G	Qualifier Limit	ts				Prepared	Analyzed	Dil Fac
Terphenyl-d14	84	42 - 1	151				05/09/15 14:21	05/12/15 16:03	1

Method: 8270D - Semivolati			MDI II	_	B	A	D!! E
Analyte	Result Qualifier	RL	MDL Unit	ט	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND —	682	ug/Kg	₩	05/09/15 14:21	05/11/15 14:30	1
Butyl benzyl phthalate	ND	227	ug/Kg	☼	05/09/15 14:21	05/11/15 14:30	1
Diethyl phthalate	ND	227	ug/Kg	☼	05/09/15 14:21	05/11/15 14:30	1
Dimethyl phthalate	ND	114	ug/Kg	φ.	05/09/15 14:21	05/11/15 14:30	1
Di-n-butyl phthalate	ND	568	ug/Kg	☼	05/09/15 14:21	05/11/15 14:30	1

TestAmerica Seattle

5/19/2015

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1 1

Client: URS Corporation TestAmerica Job ID: 580-49583-1
Project/Site: Mecox/Aecom

Client Sample ID: Rail Spur Sump

Lab Sample ID: 580-49583-1

Date Collected: 05/05/15 10:15

Matrix: Solid

Percent Solido: 93.2

Date Received: 05/05/15 14:00 Percent Solids: 83.2

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Di-n-octyl phthalate	ND		568		ug/Kg	\	05/09/15 14:21	05/11/15 14:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	87		42 - 140				05/09/15 14:21	05/11/15 14:30	1
2-Fluorophenol (Surr)	88		36 ₋ 145				05/09/15 14:21	05/11/15 14:30	1
Nitrobenzene-d5 (Surr)	91		38 - 141				05/09/15 14:21	05/11/15 14:30	1
Phenol-d5 (Surr)	95		38 - 149				05/09/15 14:21	05/11/15 14:30	1
Terphenyl-d14 (Surr)	117		42 - 151				05/09/15 14:21	05/11/15 14:30	1
2.4.6-Tribromophenol (Surr)	97		28 - 143				05/09/15 14:21	05/11/15 14:30	1

Method: NWTPH-Gx - Northwest - Volatile	Petroleum	Products	(GC)					
Analyte Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline ND		3.43		mg/Kg		05/07/15 16:40	05/08/15 02:44	1
Surrogate %Recovery	Qualifier	Limits				Prepared	Analvzed	Dil Fac
4-Bromofluorobenzene (Surr) 97		50 - 150					05/08/15 02:44	1

Method: 8082A - Polychio	orinated Biphenyls (PCBs) by Gas Chro	omatograph	hy				
Analyte	Result Qualifier	RL	MDL Un	it	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND ND	0.0116	mg	g/Kg	<u> </u>	05/06/15 14:01	05/11/15 09:33	1
PCB-1221	ND	0.0127	mg	g/Kg	≎	05/06/15 14:01	05/11/15 09:33	1
PCB-1232	ND	0.0127	mg	g/Kg	₩	05/06/15 14:01	05/11/15 09:33	1
PCB-1242	ND	0.0116	mg	g/Kg	₩	05/06/15 14:01	05/11/15 09:33	1
PCB-1248	ND	0.0116	mg	g/Kg	≎	05/06/15 14:01	05/11/15 09:33	1
PCB-1254	ND	0.0116	mg	g/Kg	≎	05/06/15 14:01	05/11/15 09:33	1
PCB-1260	ND	0.0116	mg	g/Kg	₩	05/06/15 14:01	05/11/15 09:33	1
Surrogate	%Recovery Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	59	50 - 140				05/06/15 14:01	05/11/15 09:33	1

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)											
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac		
#2 Diesel (C10-C24)	42.0	Z	28.8		mg/Kg	₩	05/14/15 10:09	05/14/15 17:27	1		
Motor Oil (>C24-C36)	93.6	Z	57.7		mg/Kg	☆	05/14/15 10:09	05/14/15 17:27	1		
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac		
o-Terphenyl	80		50 - 150				05/14/15 10:09	05/14/15 17:27	1		

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Tetrachloro-m-xylene

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.801	0.270		mg/Kg	<u> </u>	05/08/15 13:36	05/11/15 17:30	5
Barium	36.8	0.270		mg/Kg	☼	05/08/15 13:36	05/11/15 17:30	5
Cadmium	0.130	0.108		mg/Kg	₩	05/08/15 13:36	05/11/15 17:30	5
Chromium	1.85	0.270		mg/Kg	Φ.	05/08/15 13:36	05/11/15 17:30	5
Lead	2.70	0.270		mg/Kg	☼	05/08/15 13:36	05/11/15 17:30	5
Silver	ND	0.108		mg/Kg	☼	05/08/15 13:36	05/11/15 17:30	5
Selenium	1.17	0.541		mg/Kg	₽	05/08/15 13:36	05/11/15 17:30	5

Method: 7471A - Mercury (CVA Analyte	A) Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0398	0.0222	mg/Kg	<u>₩</u>	05/13/15 11:17	05/13/15 14:54	1

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05/06/15 14:01 05/11/15 09:33

Client Sample Results

Client: URS Corporation TestAmerica Job ID: 580-49583-1
Project/Site: Mecox/Aecom

General Chemistry Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83		0.10		%			05/08/15 14:06	1
Percent Moisture	17		0.10		%			05/08/15 14:06	1

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QC Sample Results

Client: URS Corporation TestAmerica Job ID: 580-49583-1 Project/Site: Mecox/Aecom

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-188873/1-A

Matrix: Solid

Client Sample ID: Method Blank Prep Type: Total/NA

Analysis Batch: 188855	MD	МВ						Prep Batch:	188873
Analyte		พธ Qualifier	RL	MDL (Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		40.0		ug/Kg		-	05/07/15 13:32	1
Chloromethane	ND		100		ug/Kg ug/Kg			05/07/15 13:32	
Vinyl chloride	ND		16.0		ug/Kg			05/07/15 13:32	1
Bromomethane	ND		140		ug/Kg			05/07/15 13:32	· · · · · · · · · · · · · · · · · · ·
Chloroethane	ND ND		400		ug/Kg ug/Kg			05/07/15 13:32	1
Trichlorofluoromethane	ND ND		40.0		ug/Kg ug/Kg			05/07/15 13:32	1
1,1-Dichloroethene	ND		20.0					05/07/15 13:32	
,	ND ND		25.0		ug/Kg			05/07/15 13:32	1
Methylene Chloride	ND ND		40.0		ug/Kg			05/07/15 13:32	1
trans-1,2-Dichloroethene					ug/Kg			05/07/15 13:32	
1,1-Dichloroethane	ND		40.0		ug/Kg				1
2,2-Dichloropropane	ND		40.0		ug/Kg			05/07/15 13:32	1
cis-1,2-Dichloroethene	ND		40.0		ug/Kg			05/07/15 13:32	1
Bromochloromethane	ND		40.0		ug/Kg			05/07/15 13:32	1
Chloroform	ND		40.0		ug/Kg			05/07/15 13:32	1
1,1,1-Trichloroethane	ND		40.0		ug/Kg			05/07/15 13:32	1
Carbon tetrachloride	ND		20.0		ug/Kg			05/07/15 13:32	1
1,1-Dichloropropene	ND		40.0		ug/Kg			05/07/15 13:32	1
Benzene	ND		16.0		ug/Kg			05/07/15 13:32	1
1,2-Dichloroethane	ND		16.0		ug/Kg			05/07/15 13:32	1
Trichloroethene	ND		24.0		ug/Kg			05/07/15 13:32	1
1,2-Dichloropropane	ND		12.0		ug/Kg			05/07/15 13:32	1
Dibromomethane	ND		60.0	ι	ug/Kg		05/07/15 12:38	05/07/15 13:32	1
Bromodichloromethane	ND		40.0	ı	ug/Kg		05/07/15 12:38	05/07/15 13:32	1
cis-1,3-Dichloropropene	ND		16.0	ı	ug/Kg		05/07/15 12:38	05/07/15 13:32	1
Toluene	ND		40.0	ı	ug/Kg		05/07/15 12:38	05/07/15 13:32	1
trans-1,3-Dichloropropene	ND		40.0	ι	ug/Kg		05/07/15 12:38	05/07/15 13:32	1
1,1,2-Trichloroethane	ND		12.0	ι	ug/Kg		05/07/15 12:38	05/07/15 13:32	1
Tetrachloroethene	ND		20.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
1,3-Dichloropropane	ND		40.0	ι	ug/Kg		05/07/15 12:38	05/07/15 13:32	1
Dibromochloromethane	ND		20.0	ι	ug/Kg		05/07/15 12:38	05/07/15 13:32	1
1,2-Dibromoethane	ND		16.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
Chlorobenzene	ND		40.0	ι	ug/Kg		05/07/15 12:38	05/07/15 13:32	1
Ethylbenzene	ND		40.0	ι	ug/Kg		05/07/15 12:38	05/07/15 13:32	1
1,1,1,2-Tetrachloroethane	ND		40.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
1,1,2,2-Tetrachloroethane	ND		10.0	ι	ug/Kg		05/07/15 12:38	05/07/15 13:32	1
m-Xylene & p-Xylene	ND		40.0	ı	ug/Kg		05/07/15 12:38	05/07/15 13:32	1
o-Xylene	ND		40.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
Styrene	ND	٨	40.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
Bromoform	ND		40.0	ı	ug/Kg		05/07/15 12:38	05/07/15 13:32	1
Isopropylbenzene	ND		40.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
Bromobenzene	ND		40.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
N-Propylbenzene	ND		40.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
1,2,3-Trichloropropane	ND		40.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
2-Chlorotoluene	ND		40.0		ug/Kg			05/07/15 13:32	1
1,3,5-Trimethylbenzene	ND		40.0		ug/Kg			05/07/15 13:32	1
4-Chlorotoluene	ND		40.0		ug/Kg			05/07/15 13:32	1
t-Butylbenzene	ND		40.0		ug/Kg			05/07/15 13:32	1
1,2,4-Trimethylbenzene	ND		40.0		ug/Kg			05/07/15 13:32	1

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Client Sample ID: Lab Control Sample

Client: URS Corporation Project/Site: Mecox/Aecom

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-188873/1-A **Client Sample ID: Method Blank Matrix: Solid Prep Type: Total/NA Prep Batch: 188873 Analysis Batch: 188855**

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	IVID	IVID							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		40.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
1,3-Dichlorobenzene	ND		60.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
4-Isopropyltoluene	ND		40.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
1,4-Dichlorobenzene	ND		60.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
n-Butylbenzene	ND		40.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
1,2-Dichlorobenzene	ND		40.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
1,2-Dibromo-3-Chloropropane	ND		200		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
1,2,4-Trichlorobenzene	ND		40.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
1,2,3-Trichlorobenzene	ND		40.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
Hexachlorobutadiene	ND		80.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
Naphthalene	ND		40.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1
Methyl tert-butyl ether	ND		40.0		ug/Kg		05/07/15 12:38	05/07/15 13:32	1

MB MB Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac Toluene-d8 (Surr) 100 80 - 120 <u>05/07/15 12:38</u> <u>05/07/15 13:32</u> 4-Bromofluorobenzene (Surr) 98 70 - 120 05/07/15 12:38 05/07/15 13:32 Dibromofluoromethane (Surr) 97 75 - 132 05/07/15 12:38 05/07/15 13:32 Trifluorotoluene (Surr) 107 65 - 140 05/07/15 12:38 05/07/15 13:32 1,2-Dichloroethane-d4 (Surr) 101 71 - 136 05/07/15 12:38 05/07/15 13:32

Lab Sample ID: LCS 580-188873/2-A

Matrix: Solid							Prep Type: Total/NA
Analysis Batch: 188855	Spike	LCS	LCS				Prep Batch: 188873 %Rec.
Analyte	Added		Qualifier	Unit	D	%Rec	Limits
Dichlorodifluoromethane	800	737.3		ug/Kg		92	38 - 150
Chloromethane	800	780.2		ug/Kg		98	55 - 136
Vinyl chloride	800	877.0		ug/Kg		110	67 - 131
Bromomethane	800	913.2		ug/Kg		114	57 - 148
Chloroethane	800	748.3		ug/Kg		94	48 - 167
Trichlorofluoromethane	800	946.6		ug/Kg		118	47 - 165
1,1-Dichloroethene	800	697.8		ug/Kg		87	70 - 133
Methylene Chloride	800	600.2		ug/Kg		75	57 - 146
trans-1,2-Dichloroethene	800	743.3		ug/Kg		93	76 - 131
1,1-Dichloroethane	800	769.3		ug/Kg		96	70 - 128
2,2-Dichloropropane	800	737.9		ug/Kg		92	56 - 144
cis-1,2-Dichloroethene	800	786.6		ug/Kg		98	70 - 130
Bromochloromethane	800	761.9		ug/Kg		95	78 - 123
Chloroform	800	750.6		ug/Kg		94	78 ₋ 125
1,1,1-Trichloroethane	800	773.0		ug/Kg		97	63 - 135
Carbon tetrachloride	800	799.8		ug/Kg		100	59 ₋ 145
1,1-Dichloropropene	800	788.2		ug/Kg		99	77 - 125
Benzene	800	747.0		ug/Kg		93	70 - 128
1,2-Dichloroethane	800	732.3		ug/Kg		92	71 - 128
Trichloroethene	800	792.0		ug/Kg		99	83 - 124
1,2-Dichloropropane	800	745.5		ug/Kg		93	76 - 161
Dibromomethane	800	746.4		ug/Kg		93	78 - 126
Bromodichloromethane	800	785.4		ug/Kg		98	58 - 133

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Client: URS Corporation Project/Site: Mecox/Aecom

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 580-188873/2-A **Matrix: Solid**

Analysis Batch: 188855

						Prep Type: Total/NA Prep Batch: 188873
•	LCS	LCS				%Rec.
t	Result	Qualifier	Unit	D	%Rec	Limits
<u> </u>	830.6		ug/Kg		104	69 - 129
)	793.1		ug/Kg		99	75 ₋ 126

	Spike	LCS	LCS				%Rec.	
Analyte	Added		Qualifier	Unit	D	%Rec	Limits	
cis-1,3-Dichloropropene	800	830.6		ug/Kg		104	69 - 129	
Toluene	800	793.1		ug/Kg		99	75 - 126	
trans-1,3-Dichloropropene	800	873.9		ug/Kg		109	72 - 129	
1,1,2-Trichloroethane	800	724.4		ug/Kg		91	77 - 124	
Tetrachloroethene	800	897.7		ug/Kg		112	56 - 155	
1,3-Dichloropropane	800	720.4		ug/Kg		90	77 - 123	
Dibromochloromethane	800	795.7		ug/Kg		99	42 - 129	
1,2-Dibromoethane	800	769.2		ug/Kg		96	69 - 126	
Chlorobenzene	800	821.2		ug/Kg		103	75 - 120	
Ethylbenzene	800	826.7		ug/Kg		103	78 ₋ 126	
1,1,1,2-Tetrachloroethane	800	812.0		ug/Kg		101	72 - 123	
1,1,2,2-Tetrachloroethane	800	721.8		ug/Kg		90	73 - 125	
m-Xylene & p-Xylene	800	853.8		ug/Kg		107	78 ₋ 126	
o-Xylene	800	828.8		ug/Kg		104	77 - 127	
Styrene	800	877.8	٨	ug/Kg		110	79 ₋ 127	
Bromoform	800	696.2		ug/Kg		87	50 - 124	
Isopropylbenzene	800	848.1		ug/Kg		106	79 ₋ 127	
Bromobenzene	800	745.7		ug/Kg		93	80 - 120	
N-Propylbenzene	800	777.6		ug/Kg		97	81 - 127	
1,2,3-Trichloropropane	800	661.3		ug/Kg		83	77 - 123	
2-Chlorotoluene	800	776.6		ug/Kg		97	79 - 122	
1,3,5-Trimethylbenzene	800	783.8		ug/Kg		98	80 - 125	
4-Chlorotoluene	800	778.6		ug/Kg		97	80 - 122	
t-Butylbenzene	800	813.3		ug/Kg		102	71 - 136	
1,2,4-Trimethylbenzene	800	781.7		ug/Kg		98	79 ₋ 124	
sec-Butylbenzene	800	816.2		ug/Kg		102	78 - 128	
1,3-Dichlorobenzene	800	785.3		ug/Kg		98	79 ₋ 119	
4-Isopropyltoluene	800	780.0		ug/Kg		98	78 ₋ 126	
1,4-Dichlorobenzene	800	816.7		ug/Kg		102	79 - 117	
n-Butylbenzene	800	805.0		ug/Kg		101	78 - 128	
1,2-Dichlorobenzene	800	779.6		ug/Kg		97	79 - 117	
1,2-Dibromo-3-Chloropropane	800	650.8		ug/Kg		81	53 - 132	
1,2,4-Trichlorobenzene	800	728.7		ug/Kg		91	61 - 130	
1,2,3-Trichlorobenzene	800	689.1		ug/Kg		86	61 - 130	
Hexachlorobutadiene	800	681.8		ug/Kg		85	68 - 134	
Naphthalene	800	708.7		ug/Kg		89	14 - 170	
Methyl tert-butyl ether	800	748.0		ug/Kg		93	65 - 125	
LCS LCS								

Surrogate	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)	100		80 - 120
4-Bromofluorobenzene (Surr)	104		70 - 120
Dibromofluoromethane (Surr)	104		75 - 132
Trifluorotoluene (Surr)	107		65 - 140
1,2-Dichloroethane-d4 (Surr)	100		71 - 136

Client: URS Corporation Project/Site: Mecox/Aecom

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-189040/1-A

Matrix: Solid

Analysis Batch: 189067

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 189040

•	MB	MB						•	
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND		600		ug/Kg		05/09/15 14:21	05/11/15 11:02	1
Butyl benzyl phthalate	ND		200		ug/Kg		05/09/15 14:21	05/11/15 11:02	1
Diethyl phthalate	ND		200		ug/Kg		05/09/15 14:21	05/11/15 11:02	1
Dimethyl phthalate	ND		100		ug/Kg		05/09/15 14:21	05/11/15 11:02	1
Di-n-butyl phthalate	ND		500		ug/Kg		05/09/15 14:21	05/11/15 11:02	1
Di-n-octyl phthalate	ND		500		ug/Kg		05/09/15 14:21	05/11/15 11:02	1

MR MR

	IVID	IVID				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	97		42 - 140	05/09/15 14:21	05/11/15 11:02	1
2-Fluorophenol (Surr)	91		36 - 145	05/09/15 14:21	05/11/15 11:02	1
Nitrobenzene-d5 (Surr)	93		38 - 141	05/09/15 14:21	05/11/15 11:02	1
Phenol-d5 (Surr)	99		38 - 149	05/09/15 14:21	05/11/15 11:02	1
Terphenyl-d14 (Surr)	108		42 - 151	05/09/15 14:21	05/11/15 11:02	1
2,4,6-Tribromophenol (Surr)	44		28 - 143	05/09/15 14:21	05/11/15 11:02	1
<u></u>						

Lab Sample ID: LCS 580-189040/2-A

Lab Sample ID: LCSD 580-189040/3-A

Matrix: Solid

Matrix: Solid

Analysis Batch: 189067

Client Sample ID: Lab Control Sample Prep Type: Total/NA **Prep Batch: 189040**

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Bis(2-ethylhexyl) phthalate	1000	1046		ug/Kg		105	62 - 144	
Butyl benzyl phthalate	1000	1040		ug/Kg		104	69 - 142	
Diethyl phthalate	1000	946.1		ug/Kg		95	73 - 116	
Dimethyl phthalate	1000	1009		ug/Kg		101	78 - 117	
Di-n-butyl phthalate	1000	996.3		ug/Kg		100	66 - 140	
Di-n-octyl phthalate	1000	1035		ug/Kg		104	65 - 141	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
2-Fluorobiphenyl	97		42 - 140
2-Fluorophenol (Surr)	99		36 - 145
Nitrobenzene-d5 (Surr)	99		38 - 141
Phenol-d5 (Surr)	101		38 - 149
Terphenyl-d14 (Surr)	106		42 - 151
2,4,6-Tribromophenol (Surr)	97		28 - 143

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Pren Batch: 189040

Analysis Batch: 189067							Prep Ba	itch: 18	39040
	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Bis(2-ethylhexyl) phthalate	1000	970.8		ug/Kg		97	62 - 144	7	30
Butyl benzyl phthalate	1000	989.5		ug/Kg		99	69 - 142	5	30
Diethyl phthalate	1000	920.3		ug/Kg		92	73 - 116	3	26
Dimethyl phthalate	1000	971.9		ug/Kg		97	78 - 117	4	30
Di-n-butyl phthalate	1000	957.0		ug/Kg		96	66 - 140	4	30
Di-n-octyl phthalate	1000	974.8		ug/Kg		97	65 - 141	6	30

TestAmerica Seattle

Client: URS Corporation Project/Site: Mecox/Aecom

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 580-189040/3-A

Matrix: Solid

Analysis Batch: 189067

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Prep Batch: 189040

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
2-Fluorobiphenyl	94		42 - 140
2-Fluorophenol (Surr)	94		36 - 145
Nitrobenzene-d5 (Surr)	95		38 - 141
Phenol-d5 (Surr)	94		38 - 149
Terphenyl-d14 (Surr)	103		42 - 151
2.4.6-Tribromophenol (Surr)	91		28 ₋ 143

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-189040/1-A

Matrix: Solid

Analysis Batch: 189161

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 189040

Analysis Batch. 100101	МВ	МВ						r rep baten.	103040
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND		10.0		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
2-Methylnaphthalene	ND		5.00		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
Acenaphthene	ND		5.00		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
Acenaphthylene	ND		5.00		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
Anthracene	ND		5.00		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
Benzo[a]anthracene	ND		10.0		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
Benzo[a]pyrene	ND		5.00		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
Benzo[b]fluoranthene	ND		10.0		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
Benzo[g,h,i]perylene	ND		10.0		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
Benzo[k]fluoranthene	ND		10.0		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
Chrysene	ND		5.00		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
Dibenz(a,h)anthracene	ND		5.00		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
Fluoranthene	ND		5.00		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
Fluorene	ND		5.00		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
Indeno[1,2,3-cd]pyrene	ND		5.00		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
Naphthalene	ND		10.0		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
Phenanthrene	ND		10.0		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
Pyrene	ND		10.0		ug/Kg		05/09/15 14:21	05/12/15 09:52	1
	МВ	МВ							

Surrogate%RecoveryQualifierLimitsTerphenyl-d148542 - 151

 Prepared
 Analyzed
 Dil Fac

 05/09/15 14:21
 05/12/15 09:52
 1

Lab Sample ID: LCS 580-189040/2-A

Matrix: Solid

Analysis Batch: 189161

Cilen	t Sar	пріе і	D: Lab Control Sample
			Prep Type: Total/NA
			Prep Batch: 189040
			%Rec.
	_	~-	

7 maryolo Batom 100101	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
1-Methylnaphthalene	1000	893.6		ug/Kg		89	62 - 118
2-Methylnaphthalene	1000	787.6		ug/Kg		79	64 - 119
Acenaphthene	1000	853.5		ug/Kg		85	68 - 116
Acenaphthylene	1000	844.2		ug/Kg		84	68 - 120
Anthracene	1000	896.2		ug/Kg		90	73 - 116
Benzo[a]anthracene	1000	904.8		ug/Kg		90	76 - 119

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5/19/2015

Client: URS Corporation Project/Site: Mecox/Aecom

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 580-189040/2-A

Matrix: Solid

Analysis Batch: 189161

Client Sample ID: Lab Control Sample Prep Type: Total/NA Pren Batch: 189040

Analysis Batch: 189161	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Benzo[a]pyrene	1000	889.0		ug/Kg		89	72 - 117
Benzo[b]fluoranthene	1000	800.3		ug/Kg		80	63 - 132
Benzo[g,h,i]perylene	1000	836.0		ug/Kg		84	55 ₋ 139
Benzo[k]fluoranthene	1000	926.4		ug/Kg		93	63 - 119
Chrysene	1000	865.7		ug/Kg		87	75 ₋ 114
Dibenz(a,h)anthracene	1000	916.0		ug/Kg		92	56 - 134
Fluoranthene	1000	899.7		ug/Kg		90	73 - 125
Fluorene	1000	781.1		ug/Kg		78	70 - 121
Indeno[1,2,3-cd]pyrene	1000	907.3		ug/Kg		91	56 - 127
Naphthalene	1000	825.7		ug/Kg		83	62 - 112
Phenanthrene	1000	774.1		ug/Kg		77	73 - 106
Pyrene	1000	834.2		ug/Kg		83	70 - 120

LCS LCS

Surrogate %Recovery Qualifier Limits Terphenyl-d14 88 42 - 151

Lab Sample ID: LCSD 580-189040/3-A

Matrix: Solid

Analysis Batch: 189161

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Prep Batch: 189040

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1-Methylnaphthalene	1000	860.4	-	ug/Kg		86	62 - 118	4	30
2-Methylnaphthalene	1000	754.0		ug/Kg		75	64 - 119	4	27
Acenaphthene	1000	807.1		ug/Kg		81	68 - 116	6	27
Acenaphthylene	1000	816.8		ug/Kg		82	68 - 120	3	28
Anthracene	1000	845.4		ug/Kg		85	73 - 116	6	27
Benzo[a]anthracene	1000	848.9		ug/Kg		85	76 - 119	6	27
Benzo[a]pyrene	1000	843.4		ug/Kg		84	72 - 117	5	30
Benzo[b]fluoranthene	1000	834.0		ug/Kg		83	63 - 132	4	30
Benzo[g,h,i]perylene	1000	793.0		ug/Kg		79	55 - 139	5	28
Benzo[k]fluoranthene	1000	807.3		ug/Kg		81	63 - 119	14	30
Chrysene	1000	830.0		ug/Kg		83	75 - 114	4	26
Dibenz(a,h)anthracene	1000	863.7		ug/Kg		86	56 - 134	6	30
Fluoranthene	1000	848.0		ug/Kg		85	73 - 125	6	30
Fluorene	1000	773.3		ug/Kg		77	70 - 121	1	30
Indeno[1,2,3-cd]pyrene	1000	809.0		ug/Kg		81	56 - 127	11	29
Naphthalene	1000	792.0		ug/Kg		79	62 - 112	4	26
Phenanthrene	1000	723.2	*	ug/Kg		72	73 - 106	7	28
Pyrene	1000	795.0		ug/Kg		79	70 - 120	5	30

LCSD LCSD

Surrogate %Recovery Qualifier Limits Terphenyl-d14 42 - 151 84

TestAmerica Seattle

Client Sample ID: Matrix Spike Duplicate

Client: URS Corporation Project/Site: Mecox/Aecom

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 580-49433-B-18-I MS Client Sample ID: Matrix Spike **Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 189161 Prep Batch: 189040**

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1-Methylnaphthalene	ND		1260	1060		ug/Kg		84	62 - 118	
2-Methylnaphthalene	ND		1260	949.0		ug/Kg	₩	75	64 - 119	
Acenaphthene	ND		1260	992.3		ug/Kg	₩	79	68 - 116	
Acenaphthylene	ND		1260	1003		ug/Kg	₩.	80	68 - 120	
Anthracene	ND		1260	1026		ug/Kg	₩	81	73 - 116	
Benzo[a]anthracene	22.5		1260	1065		ug/Kg	₩	83	76 - 119	
Benzo[a]pyrene	22.9		1260	992.0		ug/Kg	₩	77	72 - 117	
Benzo[b]fluoranthene	40.2		1260	1019		ug/Kg	₩	78	63 - 132	
Benzo[g,h,i]perylene	21.6		1260	928.5		ug/Kg	₩	72	55 - 139	
Benzo[k]fluoranthene	14.5		1260	883.0		ug/Kg	₩	69	63 - 119	
Chrysene	40.3		1260	1005		ug/Kg	₩	77	75 - 114	
Dibenz(a,h)anthracene	ND		1260	1014		ug/Kg	☼	80	56 - 134	
Fluoranthene	53.5		1260	1116		ug/Kg	₩	84	73 - 125	
Fluorene	ND		1260	950.7		ug/Kg	₩	75	70 - 121	
Indeno[1,2,3-cd]pyrene	23.1		1260	1000		ug/Kg	☼	78	56 - 127	
Naphthalene	ND		1260	957.9		ug/Kg		76	62 - 112	
Phenanthrene	18.7	F1 *	1260	913.4	F1	ug/Kg	₩	71	73 - 106	
Pyrene	40.0		1260	1026		ug/Kg	≎	78	70 - 120	

MS MS Surrogate %Recovery Qualifier Limits Terphenyl-d14 82 42 - 151

Lab Sample ID: 580-49433-B-18-J MSD

Matrix: Solid Analysis Batch: 189161									Prep Type: To Prep Batch: 1		89040	
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
1-Methylnaphthalene	ND		1310	1063		ug/Kg	₩	81	62 - 118	0	30	
2-Methylnaphthalene	ND		1310	928.5		ug/Kg	≎	71	64 - 119	2	27	
Acenaphthene	ND		1310	964.8		ug/Kg	₩	74	68 - 116	3	27	
Acenaphthylene	ND		1310	982.8		ug/Kg	₩	75	68 - 120	2	28	
Anthracene	ND		1310	1052		ug/Kg	₩	80	73 - 116	2	27	
Benzo[a]anthracene	22.5		1310	1078		ug/Kg	₩	81	76 - 119	1	27	
Benzo[a]pyrene	22.9		1310	1011		ug/Kg	₩	75	72 - 117	2	30	
Benzo[b]fluoranthene	40.2		1310	980.3		ug/Kg	₩	72	63 - 132	4	31	
Benzo[g,h,i]perylene	21.6		1310	952.6		ug/Kg	☆	71	55 - 139	3	28	
Benzo[k]fluoranthene	14.5		1310	962.9		ug/Kg	₽	72	63 - 119	9	31	
Chrysene	40.3		1310	1057		ug/Kg	₩	78	75 - 114	5	26	
Dibenz(a,h)anthracene	ND		1310	1031		ug/Kg	☆	78	56 - 134	2	30	
Fluoranthene	53.5		1310	1141		ug/Kg	₩	83	73 - 125	2	36	
Fluorene	ND		1310	948.2		ug/Kg	☆	72	70 - 121	0	31	
Indeno[1,2,3-cd]pyrene	23.1		1310	1033		ug/Kg	☆	77	56 - 127	3	29	
Naphthalene	ND		1310	977.8		ug/Kg	₩	74	62 - 112	2	26	
Phenanthrene	18.7	F1 *	1310	923.1	F1	ug/Kg	≎	69	73 - 106	1	28	
Pyrene	40.0		1310	1060		ug/Kg	≎	78	70 - 120	3	31	

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Client: URS Corporation Project/Site: Mecox/Aecom

Method: 8270D SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 580-49433-B-18-J MSD

Matrix: Solid

Analysis Batch: 189161

MSD MSD

Surrogate %Recovery Qualifier Limits Terphenyl-d14 42 - 151 81

Client Sample ID: Matrix Spike Duplicate Prep Type: Total/NA

Prep Batch: 189040

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-188910/1-A

Matrix: Solid

Analysis Batch: 188879

MB MB

Analyte

Result Qualifier Gasoline ND

MB MB Qualifier Limits %Recovery

50 - 150 4-Bromofluorobenzene (Surr) 97 104 Trifluorotoluene (Surr) 50 - 150 **Client Sample ID: Method Blank**

Prep Type: Total/NA

Prep Batch: 188910

Analyzed

Dil Fac

05/07/15 16:25 05/07/15 16:51

Prepared Dil Fac Analyzed 05/07/15 16:25 05/07/15 16:51

Lab Sample ID: LCS 580-188910/2-A

Matrix: Solid

Analyte

Gasoline

Surrogate

Analysis Batch: 188879

Spike Added 40.0

RL

4.00

LCS LCS Result Qualifier 34.00

MDL Unit

mg/Kg

Unit mg/Kg

Prepared

%Rec

Prep Batch: 188910 %Rec.

Prep Type: Total/NA

Limits 68 - 120

05/07/15 16:25 05/07/15 16:51

Client Sample ID: Lab Control Sample

LCS LCS

%Recovery Qualifier Limits Surrogate 4-Bromofluorobenzene (Surr) 102 50 - 150 Trifluorotoluene (Surr) 105 50 - 150

Lab Sample ID: LCSD 580-188910/3-A

Matrix: Solid

Analyte

Gasoline

Analysis Batch: 188879

Spike Added 40.0 LCSD LCSD

37.37

Result Qualifier

MDL Unit

mg/Kg

mg/Kg

mg/Kg

Unit

mg/Kg

%Rec 93 68 - 120

Prepared

Client Sample ID: Lab Control Sample Dup

Prep Batch: 188910 RPD %Rec. Limits RPD Limit

Prep Type: Total/NA

LCSD LCSD

Surrogate 4-Bromofluorobenzene (Surr) Trifluorotoluene (Surr)

%Recovery Qualifier 104 110

Limits 50 - 150 50 - 150

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

MB MB Result Qualifier

 $\overline{\mathsf{ND}}$

ND

ND

Lab Sample ID: MB 580-188747/1-A

Matrix: Solid

Analyte

PCB-1016

PCB-1221

PCB-1232

Analysis Batch: 189033

Client Sample ID: Method Blank Prep Type: Total/NA

05/06/15 14:01 05/09/15 01:30

05/06/15 14:01 05/09/15 01:30

Prep Batch: 188747

Dil Fac Analyzed 05/06/15 14:01 05/09/15 01:30

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0.0100

0.0110

0.0110

5/19/2015

Client: URS Corporation Project/Site: Mecox/Aecom

restAmenta Job ID. 560-49565-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: MB 580-188747/1-A

Matrix: Solid

Analysis Batch: 189033

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 188747

	IVID	IVID							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1242	ND		0.0100		mg/Kg		05/06/15 14:01	05/09/15 01:30	1
PCB-1248	ND		0.0100		mg/Kg		05/06/15 14:01	05/09/15 01:30	1
PCB-1254	ND		0.0100		mg/Kg		05/06/15 14:01	05/09/15 01:30	1
PCB-1260	ND		0.0100		mg/Kg		05/06/15 14:01	05/09/15 01:30	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	87		50 - 140	05/06/15 14:01	05/09/15 01:30	1
Tetrachloro-m-xylene	72		45 - 135	05/06/15 14:01	05/09/15 01:30	1

Lab Sample ID: LCS 580-188747/2-A

Matrix: Solid

Analysis Batch: 189033

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Type: Total/NA Prep Batch: 188747

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
PCB-1016	 0.100	0.08536		mg/Kg		85	40 - 140	
PCB-1260	0.100	0.08792		mg/Kg		88	60 - 130	

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
DCB Decachlorobiphenyl	96		50 - 140
Tetrachloro-m-xylene	82		45 - 135

Lab Sample ID: LCSD 580-188747/3-A

Matrix: Solid

Analysis Batch: 189033

Client Sample ID:	Lab	Control	Sam	ple Du	р
		Pren Ty	ne: 1	Total/N	Δ

Prep Type: Total/NA Prep Batch: 188747

	Spike	LCSD	LCSD				%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
PCB-1016	0.100	0.08933		mg/Kg	_	89	40 - 140	5	20	
PCB-1260	0.100	0.08598		mg/Kg		86	60 - 130	2	20	

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
DCB Decachlorobiphenyl	90		50 - 140
Tetrachloro-m-xylene	82		45 - 135

Lab Sample ID: 580-49291-A-5-B MS

Matrix: Solid

Analysis Batch: 189033

Client Sample ID: Matrix S	pike
Prep Type: Tota	ıl/NA

Prep Batch: 188747

%Rec. Limits

Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
PCB-1016	ND		0.120	0.1053		mg/Kg	₩	88	40 - 140	
PCB-1260	ND		0.120	0.1026		mg/Kg	₩	86	60 - 130	

Spike

MS MS

MS MS

Sample Sample

Surrogate	%Recovery	Qualifier	Limits
DCB Decachlorobiphenyl	92		50 - 140
Tetrachloro-m-xylene	83		45 - 135

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Client: URS Corporation Project/Site: Mecox/Aecom

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 580-49291-A-5-C MSD

Matrix: Solid

Analysis Batch: 189033

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA Prep Batch: 188747

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
PCB-1016	ND		0.120	0.1004		mg/Kg	<u> </u>	84	40 - 140	5	20
PCB-1260	ND		0.120	0.1018		mg/Kg	₽	85	60 - 130	1	20

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
DCB Decachlorobiphenyl	90	-	50 - 140
Tetrachloro-m-xvlene	82		45 - 135

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-189383/1-A

Matrix: Solid

Analysis Batch: 189368

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 189383

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac #2 Diesel (C10-C24) 25.0 05/14/15 10:09 05/14/15 13:32 ND mg/Kg Motor Oil (>C24-C36) ND 50.0 mg/Kg 05/14/15 10:09 05/14/15 13:32

MB MB

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
o-Terphenyl	78	50 - 150	05/14/15 10:09 05	5/14/15 13:32	

472.9

mg/Kg

Lab Sample ID: LCS 580-189383/2-A

Matrix: Solid

Motor Oil (>C24-C36)

Analysis Batch: 189368

Chefft Sample ID. L	an control sample
Pi	rep Type: Total/NA
P	Prep Batch: 189383

64 - 127

Spike LCS LCS Added Result Qualifier Unit Limits **Analyte** D %Rec #2 Diesel (C10-C24) 500 458.0 92 mg/Kg 70 - 125

502

LCS LCS Surrogate Limits %Recovery Qualifier 50 - 150 o-Terphenyl 83

Lab Sample ID: LCSD 580-189383/4-A

Matrix: Solid

Analysis Batch: 189368

Client Sample	ID:	Lab Control	Sample	Dup

Prep Type: Total/NA **Prep Batch: 189383**

	Spike	LCSD	LCSD				%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
#2 Diesel (C10-C24)	500	483.7		mg/Kg		97	70 - 125	5	16	
Motor Oil (>C24-C36)	502	501.1		mg/Kg		100	64 - 127	6	17	

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
o-Terphenyl	87		50 - 150

TestAmerica Seattle

Client Sample ID: Lab Control Sample

%Rec.

Client: URS Corporation Project/Site: Mecox/Aecom

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-49583-1 DU Client Sample ID: Rail Spur Sump **Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 189368 Prep Batch: 189383** Sample Sample DU DU **RPD** Result Qualifier Result Qualifier Unit D RPD

Analyte Limit 77 35 #2 Diesel (C10-C24) 42.0 Z ND F5 mg/Kg 45 Motor Oil (>C24-C36) 93.6 Z 71.95 ₿ 26 35 mg/Kg

DU DU %Recovery Qualifier Limits Surrogate o-Terphenyl 75 50 - 150

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 580-188983/11-A Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Solid

Analysis Batch: 189173 Prep Batch: 188983

MB MB Result Qualifier MDL Unit D Prepared Dil Fac **Analyte** RL Analyzed Arsenic $\overline{\mathsf{ND}}$ 0.250 05/08/15 13:36 05/11/15 17:17 5 mg/Kg Barium ND 0.250 mg/Kg 5 Cadmium ND mg/Kg 05/08/15 13:36 05/11/15 17:17 5 0.100 ND 5 Chromium 0.250 mg/Kg 05/08/15 13:36 05/11/15 17:17 Lead ND 0.250 mg/Kg 5 Silver ND 0.100 mg/Kg 05/08/15 13:36 05/11/15 17:17 5 ND 05/08/15 13:36 05/11/15 17:17 Selenium 0.500 mg/Kg

Lab Sample ID: LCS 580-188983/12-A **Client Sample ID: Lab Control Sample Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 189173

Prep Batch: 188983 LCS LCS Spike %Rec. Added Analyte Result Qualifier Unit D %Rec Limits Arsenic 200 200.1 mq/Kq 100 80 - 120 Barium 200 205 4 mg/Kg 103 80 - 120 80 - 120 Cadmium 5.00 5.165 mg/Kg 103 20.0 20.55 80 - 120 Chromium mg/Kg 103 Lead 50.0 47.78 mg/Kg 96 80 - 120 Silver 30.0 29.44 98 80 - 120 mg/Kg

Lab Sample ID: LCSD 580-188983/13-A Client Sample ID: Lab Control Sample Dup

200.8

210.4

207.4

mg/Kg

mg/Kg

mg/Kg

100

105

104

80 - 120

80 - 120

80 - 120

200

200

Matrix: Solid

Zinc

Selenium

Selenium

Analysis Batch: 189173 Prep Batch: 188983 Spike LCSD LCSD %Rec. RPD Analyte Added Result Qualifier Unit %Rec Limits **RPD** Limit Arsenic 200 198.8 mg/Kg 99 80 - 120 20 Barium 200 206.1 mg/Kg 103 80 - 120 20 5.00 5.200 104 80 - 120 20 Cadmium mg/Kg Chromium 20.0 20.62 mg/Kg 103 80 - 120 20 Lead 50.0 47.47 95 80 - 12020 mg/Kg Silver 30.0 29.59 mg/Kg 99 80 - 120 20 Zinc 200 199.1 mg/Kg 100 80 - 120 20

TestAmerica Seattle

Prep Type: Total/NA

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5/19/2015

Client: URS Corporation Project/Site: Mecox/Aecom

Lab Sample ID: 580-49597-A-1-C MS

Matrix: Solid

Analysis Batch: 189173

Client Sample ID: Matrix Spike

Prep Type: Total/NA **Prep Batch: 188983**

Prep Type: Total/NA

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Arsenic	72.1		213	278.5		mg/Kg	<u> </u>	97	80 - 120	
Barium	190	F1	213	423.1		mg/Kg	☼	110	80 - 120	
Cadmium	0.265		5.31	6.078		mg/Kg	☼	109	80 - 120	
Chromium	24.1		21.3	46.61		mg/Kg	₩.	106	80 - 120	
Lead	9.25		53.1	63.65		mg/Kg	₩	102	80 - 120	
Silver	ND		31.9	33.48		mg/Kg	☼	105	80 - 120	
Zinc	70.7		213	306.0		mg/Kg	₩.	111	80 - 120	
Selenium	1.57		213	240.1		mg/Kg	₩	112	80 - 120	

Client Sample ID: Matrix Spike Duplicate

Matrix: Solid

Lab Sample ID: 580-49597-A-1-D MSD

Analysis Batch: 189173									Prep Ba		38983	
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Arsenic	72.1		211	249.4		mg/Kg	₩	84	80 - 120	11	20	
Barium	190	F1	211	454.1	F1	mg/Kg	☼	125	80 - 120	7	20	
Cadmium	0.265		5.27	6.190		mg/Kg	☼	112	80 - 120	2	20	
Chromium	24.1		21.1	41.45		mg/Kg	₩.	82	80 - 120	12	20	
Lead	9.25		52.7	61.53		mg/Kg	☼	99	80 - 120	3	20	
Silver	ND		31.6	33.72		mg/Kg	≎	107	80 - 120	1	20	
Zinc	70.7		211	300.1		mg/Kg	₩.	109	80 - 120	2	20	
Selenium	1.57		211	234.4		mg/Kg	☼	110	80 - 120	2	20	

Lab Sample ID: 580-49597-A-1-B DU **Client Sample ID: Duplicate**

Matrix: Solid

Analysis Batch: 189173

Prep Type: Total/NA **Prep Batch: 188983**

mg/Kg

	Sample Sample	DU	DU				RPD
Analyte	Result Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Arsenic	72.1	65.63		mg/Kg	\$	9	20
Barium	190 F1	173.0		mg/Kg	‡	10	20
Cadmium	0.265	0.2229		mg/Kg	\$	17	20
Chromium	24.1	21.71		mg/Kg	\$	10	20
Lead	9.25	8.541		mg/Kg	\$	8	20
Silver	ND	ND		mg/Kg	☼	NC	20
Selenium	1.57	1.465		mg/Kg	₩	7	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 580-189290/18-A

Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA **Prep Batch: 189290 Analysis Batch: 189353** MB MB

Analyte **Result Qualifier** MDL Unit Prepared Analyzed RL ND 0.0200 05/13/15 11:17 05/13/15 13:57 Mercury mg/Kg

Lab Sample ID: LCS 580-189290/19-A

Matrix: Solid

Mercury

Prep Type: Total/NA **Analysis Batch: 189353 Prep Batch: 189290** Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit Limits D %Rec

0.1572

0.167

TestAmerica Seattle

Client Sample ID: Lab Control Sample

80 - 120

94

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QC Sample Results

Client: URS Corporation TestAmerica Job ID: 580-49583-1

Project/Site: Mecox/Aecom

Lab Sample ID: LCSD 580-189290/20-A	Client Sample ID: Lab Control Sample Dup								
Matrix: Solid							Prep Ty	pe: Tot	al/NA
Analysis Batch: 189353							Prep Ba	atch: 1	89290
	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.167	0.1539		mg/Kg		92	80 - 120	2	20

Lab Sample ID: 580-49695-A-1-D MS								Client Sample ID: Matrix Spike				
Matrix: Solid									Prep Ty	pe: Total/NA		
Analysis Batch: 189353									Prep Ba	atch: 189290		
	Sample	Sample	Spike	MS	MS				%Rec.			
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits			
Mercury	0.0736		0.182	0.2353		mg/Kg	-	89	80 - 120			

Lab Sample ID: 580-49695-	·								/latrix Spil	ĸe Dup	licate
Matrix: Solid									Prep Ty	pe: Tot	al/NA
Analysis Batch: 189353									Prep Ba	atch: 18	39290
_	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.0736		0.180	0.2326		mg/Kg	₩	89	80 - 120	1	20
Lah Sample ID: 580-49695.	.Δ-1-C DII							Client	Sample II	U. Diin	licato

Lab Sample ID: 580-49695-A Matrix: Solid Analysis Batch: 189353		Sample	DU	DU		C	Client Sample ID: Dup Prep Type: Tot Prep Batch: 18	al/NA
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Mercury	0.0736		0.05199	F3	mg/Kg	_ ☆ _	34	20

Method: D 2216 - Percent Moisture

Lab Sample ID: 580-49597-A-1 DU

Matrix: Solid							Prep Type: 7	ota	al/NA
Analysis Batch: 188995									
_	Sample	Sample	DU	DU					RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RF	D٬	Limit
Percent Solids	85		83		%			3	20
Percent Moisture	15		17		%			16	20

Client Sample ID: Duplicate

QC Association Summary

Client: URS Corporation Project/Site: Mecox/Aecom

TestAmerica Job ID: 580-49583-1

GC/MS VOA

Analysis Batch: 188855

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49583-1	Rail Spur Sump	Total/NA	Solid	8260C	188873
LCS 580-188873/2-A	Lab Control Sample	Total/NA	Solid	8260C	188873
MB 580-188873/1-A	Method Blank	Total/NA	Solid	8260C	188873

Prep Batch: 188873

Lal	b Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580	0-49583-1	Rail Spur Sump	Total/NA	Solid	5035	
LC:	S 580-188873/2-A	Lab Control Sample	Total/NA	Solid	5035	
MB	3 580-188873/1-A	Method Blank	Total/NA	Solid	5035	

GC/MS Semi VOA

Prep Batch: 189040

Lab Sample ID 580-49433-B-18-I MS	Client Sample ID Matrix Spike	Prep Type Total/NA	Matrix Solid	Method 3550B	Prep Batch
580-49433-B-18-J MSD	Matrix Spike Duplicate	Total/NA	Solid	3550B	
580-49583-1	Rail Spur Sump	Total/NA	Solid	3550B	
LCS 580-189040/2-A	Lab Control Sample	Total/NA	Solid	3550B	
LCSD 580-189040/3-A	Lab Control Sample Dup	Total/NA	Solid	3550B	
MB 580-189040/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 189067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49583-1	Rail Spur Sump	Total/NA	Solid	8270D	189040
LCS 580-189040/2-A	Lab Control Sample	Total/NA	Solid	8270D	189040
LCSD 580-189040/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	189040
MB 580-189040/1-A	Method Blank	Total/NA	Solid	8270D	189040

Analysis Batch: 189161

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49433-B-18-I MS	Matrix Spike	Total/NA	Solid	8270D SIM	189040
580-49433-B-18-J MSD	Matrix Spike Duplicate	Total/NA	Solid	8270D SIM	189040
580-49583-1	Rail Spur Sump	Total/NA	Solid	8270D SIM	189040
LCS 580-189040/2-A	Lab Control Sample	Total/NA	Solid	8270D SIM	189040
LCSD 580-189040/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D SIM	189040
MB 580-189040/1-A	Method Blank	Total/NA	Solid	8270D SIM	189040

GC VOA

Analysis Batch: 188879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49583-1	Rail Spur Sump	Total/NA	Solid	NWTPH-Gx	188910
LCS 580-188910/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Gx	188910
LCSD 580-188910/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Gx	188910
MB 580-188910/1-A	Method Blank	Total/NA	Solid	NWTPH-Gx	188910

Prep Batch: 188910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49583-1	Rail Spur Sump	Total/NA	Solid	5035	
LCS 580-188910/2-A	Lab Control Sample	Total/NA	Solid	5035	

TestAmerica Seattle

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Client: URS Corporation Project/Site: Mecox/Aecom

GC VOA (Continued)

Prep Batch: 188910 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 580-188910/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	
MB 580-188910/1-A	Method Blank	Total/NA	Solid	5035	

GC Semi VOA

Prep Batch: 188747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49291-A-5-B MS	Matrix Spike	Total/NA	Solid	3550B	
580-49291-A-5-C MSD	Matrix Spike Duplicate	Total/NA	Solid	3550B	
580-49583-1	Rail Spur Sump	Total/NA	Solid	3550B	
LCS 580-188747/2-A	Lab Control Sample	Total/NA	Solid	3550B	
LCSD 580-188747/3-A	Lab Control Sample Dup	Total/NA	Solid	3550B	
MB 580-188747/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 189033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49291-A-5-B MS	Matrix Spike	Total/NA	Solid	8082A	188747
580-49291-A-5-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8082A	188747
580-49583-1	Rail Spur Sump	Total/NA	Solid	8082A	188747
LCS 580-188747/2-A	Lab Control Sample	Total/NA	Solid	8082A	188747
LCSD 580-188747/3-A	Lab Control Sample Dup	Total/NA	Solid	8082A	188747
MB 580-188747/1-A	Method Blank	Total/NA	Solid	8082A	188747

Analysis Batch: 189368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49583-1	Rail Spur Sump	Total/NA	Solid	NWTPH-Dx	189383
580-49583-1 DU	Rail Spur Sump	Total/NA	Solid	NWTPH-Dx	189383
LCS 580-189383/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Dx	189383
LCSD 580-189383/4-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Dx	189383
MB 580-189383/1-A	Method Blank	Total/NA	Solid	NWTPH-Dx	189383

Prep Batch: 189383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49583-1	Rail Spur Sump	Total/NA	Solid	3546	
580-49583-1 DU	Rail Spur Sump	Total/NA	Solid	3546	
LCS 580-189383/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 580-189383/4-A	Lab Control Sample Dup	Total/NA	Solid	3546	
MB 580-189383/1-A	Method Blank	Total/NA	Solid	3546	

Metals

Prep Batch: 188983

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49583-1	Rail Spur Sump	Total/NA	Solid	3050B	
580-49597-A-1-B DU	Duplicate	Total/NA	Solid	3050B	
580-49597-A-1-C MS	Matrix Spike	Total/NA	Solid	3050B	
580-49597-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	3050B	
LCS 580-188983/12-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-188983/13-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
MB 580-188983/11-A	Method Blank	Total/NA	Solid	3050B	

TestAmerica Seattle

5/19/2015

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QC Association Summary

Client: URS Corporation TestAmerica Job ID: 580-49583-1 Project/Site: Mecox/Aecom

Metals (Continued)

Analysis Batch: 189173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49583-1	Rail Spur Sump	Total/NA	Solid	6020A	188983
580-49597-A-1-B DU	Duplicate	Total/NA	Solid	6020A	188983
580-49597-A-1-C MS	Matrix Spike	Total/NA	Solid	6020A	188983
580-49597-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	6020A	188983
LCS 580-188983/12-A	Lab Control Sample	Total/NA	Solid	6020A	188983
LCSD 580-188983/13-A	Lab Control Sample Dup	Total/NA	Solid	6020A	188983
MB 580-188983/11-A	Method Blank	Total/NA	Solid	6020A	188983

Prep Batch: 189290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49583-1	Rail Spur Sump	Total/NA	Solid	7471A	
580-49695-A-1-C DU	Duplicate	Total/NA	Solid	7471A	
580-49695-A-1-D MS	Matrix Spike	Total/NA	Solid	7471A	
580-49695-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	
LCS 580-189290/19-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 580-189290/20-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
MB 580-189290/18-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 189353

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49583-1	Rail Spur Sump	Total/NA	Solid	7471A	189290
580-49695-A-1-C DU	Duplicate	Total/NA	Solid	7471A	189290
580-49695-A-1-D MS	Matrix Spike	Total/NA	Solid	7471A	189290
580-49695-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	189290
LCS 580-189290/19-A	Lab Control Sample	Total/NA	Solid	7471A	189290
LCSD 580-189290/20-A	Lab Control Sample Dup	Total/NA	Solid	7471A	189290
MB 580-189290/18-A	Method Blank	Total/NA	Solid	7471A	189290

General Chemistry

Analysis Batch: 188995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-49583-1	Rail Spur Sump	Total/NA	Solid	D 2216	
580-49597-A-1 DU	Duplicate	Total/NA	Solid	D 2216	

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Lab Chronicle

Client: URS Corporation Project/Site: Mecox/Aecom TestAmerica Job ID: 580-49583-1

Lab Sample ID: 580-49583-1

Client Sample ID: Rail Spur Sump Date Collected: 05/05/15 10:15 **Matrix: Solid** Date Received: 05/05/15 14:00 Percent Solids: 83.2

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			188873	05/07/15 12:38	JMB	TAL SEA
Total/NA	Analysis	8260C		1	188855	05/07/15 16:50	D1R	TAL SEA
Total/NA	Prep	3550B			189040	05/09/15 14:21	ERZ	TAL SEA
Total/NA	Analysis	8270D		1	189067	05/11/15 14:30	ERB	TAL SEA
Total/NA	Prep	3550B			189040	05/09/15 14:21	ERZ	TAL SEA
Total/NA	Analysis	8270D SIM		1	189161	05/12/15 16:03	AHP	TAL SEA
Total/NA	Prep	5035			188910	05/07/15 16:40	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	188879	05/08/15 02:44	IWH	TAL SEA
Total/NA	Prep	3550B			188747	05/06/15 14:01	RBL	TAL SEA
Total/NA	Analysis	8082A		1	189033	05/11/15 09:33	EKK	TAL SEA
Total/NA	Prep	3546			189383	05/14/15 10:09	DCC	TAL SEA
Total/NA	Analysis	NWTPH-Dx		1	189368	05/14/15 17:27	EKK	TAL SEA
Total/NA	Prep	3050B			188983	05/08/15 13:36	PAB	TAL SEA
Total/NA	Analysis	6020A		5	189173	05/11/15 17:30	FCW	TAL SEA
Total/NA	Prep	7471A			189290	05/13/15 11:17	PAB	TAL SEA
Total/NA	Analysis	7471A		1	189353	05/13/15 14:54	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	188995	05/08/15 14:06	EBH	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: URS Corporation TestAmerica Job ID: 580-49583-1
Project/Site: Mecox/Aecom

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-16
California	State Program	9	2901	01-31-17
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-15
US Fish & Wildlife	Federal		LE192332-0	02-28-16
USDA	Federal		P330-11-00222	04-08-17
Washington	State Program	10	C553	02-17-16

Laboratory: TestAmerica Portland

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-012	12-26-15
California	State Program	9	2597	09-30-15
Oregon	NELAP	10	OR100021	01-09-16
USDA	Federal		P330-11-00092	04-17-17
Washington	State Program	10	C586	06-23-15

--+A-----i--- I-b ID: 500 40500 4

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Sample Summary

Client: URS Corporation Project/Site: Mecox/Aecom

TestAmerica Job ID: 580-49583-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
580-49583-1	Rail Spur Sump	Solid	05/05/15 10:15	05/05/15 14:00

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THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Seattle 5755 8th Street E. Tacoma, WA 98424 Tel. 253-922-2310 Fax 253-922-5047

www.testamericainc.com



Chain of **Custody Record**

Address Address		Client Co	ntact	e P	ما	53	3										Date ((-		-15	5		Cha	in of Custody No	_{Imber} 2602) //
Address 111 Sev Columbia		Telephon	e Numl	ber (Are	a Code,	VFax 1	Vumb OO	er)				(X					Lab I	lumb	er				Pag		_ of	
	Code 7201	Sampler	20	>~	R R	Lab	Conta	act	بن	ph_	h				_	Analy more	space	e is n	list i	if d)						
Project Name and Location (State)		Billing Co	ntact									1. M.MOCC(S)	STRINGIAMS	o Marie	ייני איי	1 1001	8787 - Reptector	SX SX						Special .	Instructio	ns/
Contract/Purchase Order/Quote No. 337651 44			,	Matrix				Conta Prese	ervat	ives	•	- Oc	200	A o b	7 20 7	うた	E.	sc-vocs						Conditio		
Sample I.D. and Location/Description (Containers for each sample may be combined on one line)	Date	Time	Aqueous	(eq	ooii		H2S04	HN03	HCI	NaOH ZaAc/	NaOH		1000		Š	は一個	828	307E8								
Raul Sour Simp	5-5-15 10	>15		χ		K			-	-	3	3 ×	×	c X	2 >	< X	X	X				-	-			
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								-						-								+				
	lazard Identification							10.000			Sa	mple	Disp	osal		X	Dispo	sal B	y Lab	,				(A fee may be a	ssessed if s	amnles
X Yes □ No Cooler Temp: □ X Non-H. Turn Around Time Required (business days)			Skin Ir	ritant		Poison 					n 🗆 Specify		ırn To	Clie	nt		Archi	ve Fo	r			Month:		are retained lon		
1. Relinquished By Sign/Print Steve Roberts	ays 🗌 15 Days	Date	15	Time	40)	1. B	ceivo	ed B	V eSig	gn/Pri		4			les	SÌ	CA		VI.	ora	201	n	555	Time 2	40
2. Relinquished By Sign/Pring Jessica	Morgan	D-1-			40			>	76	w	n/Pri	nt	1		_	VH	Vel.	gorle	zole	5	<u> </u>			Date /15	Time,	
3. Kelinguishea by Sign/Prita		Date		Time			3. Re	ecei4	ed B	V Sig	ALP TO	nt(/				•							Pate *	Time	
Comments																										













Client: URS Corporation

Job Number: 580-49583-1

Login Number: 49583 List Source: TestAmerica Seattle

List Number: 1

Creator: Gonzales, Steve

Creator: Gonzales, Steve		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

TestAmerica Seattle



5/22/2015 Mr. Stephen Roberts URS Corporation 111 SW Columbia Street Suite 1500 Portland OR 97201

Project Name: Mecox Project #: 33765194 Workorder #: 1505180

Dear Mr. Stephen Roberts

The following report includes the data for the above referenced project for sample(s) received on 5/11/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kelly Buettner

Project Manager

Elly Butte



WORK ORDER #: 1505180

Work Order Summary

CLIENT: Mr. Stephen Roberts BILL TO: Accounts Payable Austin

AECOM AECOM

111 SW Columbia Street P.O. BOX 203970

Suite 1500 Austin, TX 78720-1088 Portland, OR 97201

PHONE: 503-222-7200 **P.O.** # 33765194

FAX: PROJECT # 33765194 Mecox

DATE RECEIVED: 05/11/2015 **CONTACT:** Kelly Buettner **DATE COMPLETED:** 05/22/2015

			RECEIPT	FINAL
FRACTION #	NAME	<u>TEST</u>	VAC./PRES.	PRESSURE
01A	CDR-8hr	Modified TO-15	0.2 "Hg	4.9 psi
01B	CDR-8hr	Modified TO-15	0.2 "Hg	4.9 psi
02A	CMR-8hr	Modified TO-15	3.1 "Hg	4.9 psi
02B	CMR-8hr	Modified TO-15	3.1 "Hg	4.9 psi
03A	Plate Storage-8hr	Modified TO-15	4.5 "Hg	5.2 psi
03B	Plate Storage-8hr	Modified TO-15	4.5 "Hg	5.2 psi
04A	SSVP-1	Modified TO-15	2.8 "Hg	5 psi
04B	SSVP-1	Modified TO-15	2.8 "Hg	5 psi
05A	SSVP-2	Modified TO-15	3.5 "Hg	5 psi
06A	SSVP-3	Modified TO-15	4.7 "Hg	4.9 psi
06B	SSVP-3	Modified TO-15	4.7 "Hg	4.9 psi
07A	Lab Blank	Modified TO-15	NA	NA
07B	Lab Blank	Modified TO-15	NA	NA
07C	Lab Blank	Modified TO-15	NA	NA
07D	Lab Blank	Modified TO-15	NA	NA
07E	Lab Blank	Modified TO-15	NA	NA
07F	Lab Blank	Modified TO-15	NA	NA
07G	Lab Blank	Modified TO-15	NA	NA
08A	CCV	Modified TO-15	NA	NA
08B	CCV	Modified TO-15	NA	NA
08C	CCV	Modified TO-15	NA	NA
08D	CCV	Modified TO-15	NA	NA
08E	CCV	Modified TO-15	NA	NA

Continued on next page



WORK ORDER #: 1505180

Work Order Summary

CLIENT: Mr. Stephen Roberts BILL TO: Accounts Payable Austin

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111 SW Columbia Street P.O. BOX 203970

Suite 1500 Austin, TX 78720-1088 Portland, OR 97201

PHONE: 503-222-7200 **P.O.** # 33765194

FAX: PROJECT # 33765194 Mecox

DATE RECEIVED: 05/11/2015 **CONTACT:** Kelly Buettner 05/22/2015

			RECEIPT	FINAL
FRACTION #	NAME	<u>TEST</u>	VAC./PRES.	PRESSURE
08F	CCV	Modified TO-15	NA	NA
08G	CCV	Modified TO-15	NA	NA
09A	LCS	Modified TO-15	NA	NA
09AA	LCSD	Modified TO-15	NA	NA
09B	LCS	Modified TO-15	NA	NA
09BB	LCSD	Modified TO-15	NA	NA
09C	LCS	Modified TO-15	NA	NA
09CC	LCSD	Modified TO-15	NA	NA
09D	LCS	Modified TO-15	NA	NA
09DD	LCSD	Modified TO-15	NA	NA
09E	LCS	Modified TO-15	NA	NA
09EE	LCSD	Modified TO-15	NA	NA
09F	LCS	Modified TO-15	NA	NA
09FF	LCSD	Modified TO-15	NA	NA
09G	LCS	Modified TO-15	NA	NA
09GG	LCSD	Modified TO-15	NA	NA

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CERTIFIED BY:	0 00	DATE: 05/22/15
CEITH IEE E II		2.112.

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program) Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015. Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE Modified TO-15 Full Scan/SIM URS Corporation Workorder# 1505180

Six 6 Liter Summa Canister (SIM Certified) samples were received on May 11, 2015. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the Full Scan and SIM acquisition modes. The method involves concentrating up to 1.0 liters of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-15	ATL Modifications
ICAL %RSD acceptance criteria	=30% RSD with 2<br compounds allowed out to < 40% RSD	For Full Scan: 30% RSD with 4 compounds allowed out to < 40% RSD For SIM: Project specific; default criteria is =30% RSD with 10% of compounds allowed out to < 40% RSD</td
Daily Calibration	+- 30% Difference	For Full Scan: = 30% Difference with four allowed out up to </=40%.; flag and narrate outliers For SIM: Project specific; default criteria is </= 30% Difference with 10% of compounds allowed out up to </=40%.; flag and narrate outliers</td
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The results for samples CDR-8hr, CMR-8hr, Plate Storage-8hr, SSVP-1, and SSVP-3 were acquired from two separate data files originating from the same analytical run. The two data files have the same base file name and are differentiated with a "sim" extension on the SIM data file.



target compounds.

Dilution was performed on samples SSVP-2 and SSVP-3 due to the presence of high level target species.

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
 - J Estimated value.
 - E Exceeds instrument calibration range.
 - S Saturated peak.
 - Q Exceeds quality control limits.
 - U Compound analyzed for but not detected above the reporting limit.
 - UJ- Non-detected compound associated with low bias in the CCV
 - N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



Client Sample ID: CDR-8hr

Lab ID#: 1505180-01A

Compound	Rpt. Limit (ppbv)	(ppbv)	(ug/m3)	(ug/m3)	_
Freon 12	0.13	0.60	0.66	3.0	
Freon 11	0.13	0.24	0.75	1.3	
Ethanol	0.67	1.1	1.3	2.1	
Acetone	0.67	1.2 J0	1.6	2.7 J0	

Client Sample ID: CDR-8hr

Lab ID#: 1505180-01B

Compound	Rpt. Limit (ppbv)	(ppbv)	(ug/m3)	Amount (ug/m3)	
Toluene	0.027	0.10	0.10	0.38	
Ethyl Benzene	0.027	0.028	0.12	0.12	
m,p-Xylene	0.054	0.092	0.23	0.40	
o-Xylene	0.027	0.037	0.12	0.16	

Client Sample ID: CMR-8hr

Lab ID#: 1505180-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.58	0.73	2.8
Freon 11	0.15	0.26	0.83	1.4
Ethanol	0.74	1.3	1.4	2.4
Acetone	0.74	1.6 J0	1.8	3.8 J0
4-Methyl-2-pentanone	0.15	0.22	0.61	0.89

Client Sample ID: CMR-8hr

Lab ID#: 1505180-02B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichloroethane	0.030	0.092	0.12	0.37
Toluene	0.030	0.47	0.11	1.8
Ethyl Benzene	0.030	0.059	0.13	0.26
m,p-Xylene	0.059	0.18	0.26	0.79



Client Sample ID: CMR-8hr

Lab ID#: 1505180-02B

o-Xylene 0.030 0.070 0.13 0.30

Client Sample ID: Plate Storage-8hr

Lab ID#: 1505180-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.56	0.79	2.8
Freon 11	0.16	0.28	0.89	1.6
Ethanol	0.80	0.99	1.5	1.9
Acetone	0.80	1.7 J0	1.9	4.1 J0
4-Methyl-2-pentanone	0.16	0.20	0.65	0.84

Client Sample ID: Plate Storage-8hr

Lab ID#: 1505180-03B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Toluene	0.032	0.087	0.12	0.33
m,p-Xylene	0.064	0.10	0.28	0.45
o-Xylene	0.032	0.042	0.14	0.18

Client Sample ID: SSVP-1

Lab ID#: 1505180-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.53	0.73	2.6
Chloromethane	0.74	1.2	1.5	2.4
Freon 11	0.15	0.27	0.83	1.5
Ethanol	0.74	1.1	1.4	2.1
Acetone	0.74	5.5 J0	1.8	13 J0
Hexane	0.15	0.20	0.52	0.72
2-Butanone (Methyl Ethyl Ketone)	0.74	1.2	2.2	3.5
4-Methyl-2-pentanone	0.15	1.3	0.61	5.4
4-Ethyltoluene	0.15	0.16	0.73	0.79
1,2,4-Trimethylbenzene	0.15	0.17	0.73	0.82



Client Sample ID: SSVP-1 Lab ID#: 1505180-04B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.030	2.3	0.16	12
Benzene	0.074	0.074	0.24	0.24
1,2-Dichloroethane	0.030	0.030	0.12	0.12
Toluene	0.030	0.27	0.11	1.0
Tetrachloroethene	0.030	0.82	0.20	5.6
Ethyl Benzene	0.030	0.74	0.13	3.2
m,p-Xylene	0.059	4.2	0.26	18
o-Xylene	0.030	1.4	0.13	6.3

Client Sample ID: SSVP-2

Lab ID#: 1505180-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	1500	19000	3600	45000
Hexane	380	390	1300	1400
1,1-Dichloroethane	380	660	1500	2600
2-Butanone (Methyl Ethyl Ketone)	1500	2000	4500	5900
1,1,1-Trichloroethane	380	8800	2100	48000
2,2,4-Trimethylpentane	380	970	1800	4500
Heptane	380	400	1600	1600
4-Methyl-2-pentanone	380	210000	1600	850000
Toluene	380	5400	1400	20000
Tetrachloroethene	380	830	2600	5600
Ethyl Benzene	380	8900	1600	39000
m,p-Xylene	380	37000	1600	160000
o-Xylene	380	17000	1600	73000
Cumene	380	3600	1900	18000
Propylbenzene	380	10000	1900	49000
4-Ethyltoluene	380	54000	1900	270000
1,3,5-Trimethylbenzene	380	24000	1900	120000
1,2,4-Trimethylbenzene	380	47000	1900	230000



Client Sample ID: SSVP-3 Lab ID#: 1505180-06A

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Acetone	1.6	2.7	3.8	6.4

Client Sample ID: SSVP-3

Lab ID#: 1505180-06B

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,1,1-Trichloroethane	0.063	36	0.34	200
Toluene	0.063	0.11	0.24	0.41
Tetrachloroethene	0.063	32	0.43	210



Client Sample ID: CDR-8hr Lab ID#: 1505180-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051216 Date of Collection: 5/5/15 4:30:00 PM
Dil. Factor: 1.34 Date of Analysis: 5/12/15 07:25 PM

Dil. Factor:	1.34 Date of Analysis: 5/12/15 07:25 PM			/15 07:25 PM
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.13	0.60	0.66	3.0
Freon 114	0.13	Not Detected	0.94	Not Detected
Chloromethane	0.67	Not Detected	1.4	Not Detected
1,3-Butadiene	0.13	Not Detected	0.30	Not Detected
Bromomethane	0.67	Not Detected	2.6	Not Detected
Chloroethane	0.67	Not Detected	1.8	Not Detected
Freon 11	0.13	0.24	0.75	1.3
Ethanol	0.67	1.1	1.3	2.1
Freon 113	0.13	Not Detected	1.0	Not Detected
Acetone	0.67	1.2 J0	1.6	2.7 J0
2-Propanol	0.67	Not Detected	1.6	Not Detected
Carbon Disulfide	0.67	Not Detected	2.1	Not Detected
3-Chloropropene	0.67	Not Detected	2.1	Not Detected
Methylene Chloride	0.27	Not Detected	0.93	Not Detected
Hexane	0.13	Not Detected	0.47	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.67	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.67	Not Detected	2.0	Not Detected
Chloroform	0.13	Not Detected	0.65	Not Detected
Cyclohexane	0.13	Not Detected	0.46	Not Detected
Carbon Tetrachloride	0.13	Not Detected	0.84	Not Detected
2,2,4-Trimethylpentane	0.67	Not Detected	3.1	Not Detected
Heptane	0.13	Not Detected	0.55	Not Detected
1,2-Dichloropropane	0.13	Not Detected	0.62	Not Detected
1,4-Dioxane	0.13	Not Detected	0.48	Not Detected
Bromodichloromethane	0.13	Not Detected	0.90	Not Detected
cis-1,3-Dichloropropene	0.13	Not Detected	0.61	Not Detected
4-Methyl-2-pentanone	0.13	Not Detected	0.55	Not Detected
trans-1,3-Dichloropropene	0.13	Not Detected	0.61	Not Detected
2-Hexanone	0.67	Not Detected	2.7	Not Detected
Dibromochloromethane	0.13	Not Detected	1.1	Not Detected
1,2-Dibromoethane (EDB)	0.13	Not Detected	1.0	Not Detected
Chlorobenzene	0.13	Not Detected	0.62	Not Detected
Styrene	0.13	Not Detected	0.57	Not Detected
Bromoform	0.13	Not Detected	1.4	Not Detected
Cumene	0.13	Not Detected	0.66	Not Detected
Propylbenzene	0.13	Not Detected	0.66	Not Detected
4-Ethyltoluene	0.13	Not Detected	0.66	Not Detected
1,3,5-Trimethylbenzene	0.13	Not Detected	0.66	Not Detected
1,2,4-Trimethylbenzene	0.13	Not Detected	0.66	Not Detected
1,3-Dichlorobenzene	0.13	Not Detected	0.80	Not Detected
1,4-Dichlorobenzene	0.13	Not Detected	0.80	Not Detected
alpha-Chlorotoluene	0.13	Not Detected	0.69	Not Detected
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Client Sample ID: CDR-8hr Lab ID#: 1505180-01A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e051216	Date of Collection: 5/5/15 4:30:00 PM
Dil. Factor:	1.34	Date of Analysis: 5/12/15 07:25 PM

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
1,2-Dichlorobenzene	0.13	Not Detected	0.80	Not Detected
1,2,4-Trichlorobenzene	0.67	Not Detected	5.0	Not Detected
Hexachlorobutadiene	0.67	Not Detected	7.1	Not Detected

J0 = Estimated value due to bias in the CCV.

Container Type: 6 Liter Summa Canister (SIM Certified)

• •	•	Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	128	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	92	70-130



Client Sample ID: CDR-8hr Lab ID#: 1505180-01B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e051216sim	Date of Collection: 5/5/15 4:30:00 PM
Dil. Factor:	1.34	Date of Analysis: 5/12/15 07:25 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.013	Not Detected	0.034	Not Detected
1,1-Dichloroethene	0.013	Not Detected	0.053	Not Detected
1,1-Dichloroethane	0.027	Not Detected	0.11	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
1,1,1-Trichloroethane	0.027	Not Detected	0.15	Not Detected
Benzene	0.067	Not Detected	0.21	Not Detected
1,2-Dichloroethane	0.027	Not Detected	0.11	Not Detected
Trichloroethene	0.027	Not Detected	0.14	Not Detected
Toluene	0.027	0.10	0.10	0.38
1,1,2-Trichloroethane	0.027	Not Detected	0.15	Not Detected
Tetrachloroethene	0.027	Not Detected	0.18	Not Detected
Ethyl Benzene	0.027	0.028	0.12	0.12
m,p-Xylene	0.054	0.092	0.23	0.40
o-Xylene	0.027	0.037	0.12	0.16
1,1,2,2-Tetrachloroethane	0.027	Not Detected	0.18	Not Detected
trans-1,2-Dichloroethene	0.13	Not Detected	0.53	Not Detected
Methyl tert-butyl ether	0.13	Not Detected	0.48	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	126	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	98	70-130	



Client Sample ID: CMR-8hr Lab ID#: 1505180-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051217 Date of Collection: 5/5/15 4:40:00 PM
Dil. Factor: 1.48 Date of Analysis: 5/12/15 08:08 PM

Dil. Factor:	1.48	Date of Analysis: 5/12/15 08:		/15 08:08 PM
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.15	0.58	0.73	2.8
Freon 114	0.15	Not Detected	1.0	Not Detected
Chloromethane	0.74	Not Detected	1.5	Not Detected
1,3-Butadiene	0.15	Not Detected	0.33	Not Detected
Bromomethane	0.74	Not Detected	2.9	Not Detected
Chloroethane	0.74	Not Detected	2.0	Not Detected
Freon 11	0.15	0.26	0.83	1.4
Ethanol	0.74	1.3	1.4	2.4
Freon 113	0.15	Not Detected	1.1	Not Detected
Acetone	0.74	1.6 J0	1.8	3.8 J0
2-Propanol	0.74	Not Detected	1.8	Not Detected
Carbon Disulfide	0.74	Not Detected	2.3	Not Detected
3-Chloropropene	0.74	Not Detected	2.3	Not Detected
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
Hexane	0.15	Not Detected	0.52	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.74	Not Detected	2.2	Not Detected
Tetrahydrofuran	0.74	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.72	Not Detected
Cyclohexane	0.15	Not Detected	0.51	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.93	Not Detected
2,2,4-Trimethylpentane	0.74	Not Detected	3.4	Not Detected
Heptane	0.15	Not Detected	0.61	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.68	Not Detected
1,4-Dioxane	0.15	Not Detected	0.53	Not Detected
Bromodichloromethane	0.15	Not Detected	0.99	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.67	Not Detected
4-Methyl-2-pentanone	0.15	0.22	0.61	0.89
trans-1,3-Dichloropropene	0.15	Not Detected	0.67	Not Detected
2-Hexanone	0.74	Not Detected	3.0	Not Detected
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.15	Not Detected	1.1	Not Detected
Chlorobenzene	0.15	Not Detected	0.68	Not Detected
Styrene	0.15	Not Detected	0.63	Not Detected
Bromoform	0.15	Not Detected	1.5	Not Detected
Cumene	0.15	Not Detected	0.73	Not Detected
Propylbenzene	0.15	Not Detected	0.73	Not Detected
4-Ethyltoluene	0.15	Not Detected	0.73	Not Detected
1,3,5-Trimethylbenzene	0.15	Not Detected	0.73	Not Detected
1,2,4-Trimethylbenzene	0.15	Not Detected	0.73	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.89	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.89	Not Detected
alpha-Chlorotoluene	0.15	Not Detected	0.77	Not Detected



Client Sample ID: CMR-8hr Lab ID#: 1505180-02A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e051217	Date of Collection: 5/5/15 4:40:00 PM
Dil. Factor:	1.48	Date of Analysis: 5/12/15 08:08 PM

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
1,2-Dichlorobenzene	0.15	Not Detected	0.89	Not Detected
1,2,4-Trichlorobenzene	0.74	Not Detected	5.5	Not Detected
Hexachlorobutadiene	0.74	Not Detected	7.9	Not Detected

J0 = Estimated value due to bias in the CCV.

• •	•	Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	123	70-130	
Toluene-d8	95	70-130	
4-Bromofluorobenzene	95	70-130	



Client Sample ID: CMR-8hr Lab ID#: 1505180-02B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051217sim Date of Collection: 5/5/15 4:40:00 PM Dil. Factor: 1.48 Date of Analysis: 5/12/15 08:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.015	Not Detected	0.038	Not Detected
1,1-Dichloroethene	0.015	Not Detected	0.059	Not Detected
1,1-Dichloroethane	0.030	Not Detected	0.12	Not Detected
cis-1,2-Dichloroethene	0.030	Not Detected	0.12	Not Detected
1,1,1-Trichloroethane	0.030	Not Detected	0.16	Not Detected
Benzene	0.074	Not Detected	0.24	Not Detected
1,2-Dichloroethane	0.030	0.092	0.12	0.37
Trichloroethene	0.030	Not Detected	0.16	Not Detected
Toluene	0.030	0.47	0.11	1.8
1,1,2-Trichloroethane	0.030	Not Detected	0.16	Not Detected
Tetrachloroethene	0.030	Not Detected	0.20	Not Detected
Ethyl Benzene	0.030	0.059	0.13	0.26
m,p-Xylene	0.059	0.18	0.26	0.79
o-Xylene	0.030	0.070	0.13	0.30
1,1,2,2-Tetrachloroethane	0.030	Not Detected	0.20	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Methyl tert-butyl ether	0.15	Not Detected	0.53	Not Detected

	Wethod
%Recovery	Limits
126	70-130
100	70-130
96	70-130
	126 100



Client Sample ID: Plate Storage-8hr Lab ID#: 1505180-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051218 Date of Collection: 5/5/15 4:50:00 PM
Dil. Factor: 1.59 Date of Analysis: 5/12/15 08:55 PM

Dil. Factor:	1.59	Date	of Analysis: 5/12	/15 08:55 PM
_	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.16	0.56	0.79	2.8
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.80	Not Detected	1.6	Not Detected
1,3-Butadiene	0.16	Not Detected	0.35	Not Detected
Bromomethane	0.80	Not Detected	3.1	Not Detected
Chloroethane	0.80	Not Detected	2.1	Not Detected
Freon 11	0.16	0.28	0.89	1.6
Ethanol	0.80	0.99	1.5	1.9
Freon 113	0.16	Not Detected	1.2	Not Detected
Acetone	0.80	1.7 J0	1.9	4.1 J0
2-Propanol	0.80	Not Detected	2.0	Not Detected
Carbon Disulfide	0.80	Not Detected	2.5	Not Detected
3-Chloropropene	0.80	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
Hexane	0.16	Not Detected	0.56	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.80	Not Detected	2.3	Not Detected
Tetrahydrofuran	0.80	Not Detected	2.3	Not Detected
Chloroform	0.16	Not Detected	0.78	Not Detected
Cyclohexane	0.16	Not Detected	0.55	Not Detected
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.80	Not Detected	3.7	Not Detected
Heptane	0.16	Not Detected	0.65	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.73	Not Detected
1,4-Dioxane	0.16	Not Detected	0.57	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.72	Not Detected
4-Methyl-2-pentanone	0.16	0.20	0.65	0.84
trans-1,3-Dichloropropene	0.16	Not Detected	0.72	Not Detected
2-Hexanone	0.80	Not Detected	3.2	Not Detected
Dibromochloromethane	0.16	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.73	Not Detected
Styrene	0.16	Not Detected	0.68	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.78	Not Detected
Propylbenzene	0.16	Not Detected	0.78	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.78	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.78	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.78	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.82	Not Detected



Client Sample ID: Plate Storage-8hr Lab ID#: 1505180-03A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e051218	Date of Collection: 5/5/15 4:50:00 PM
Dil. Factor:	1.59	Date of Analysis: 5/12/15 08:55 PM

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
1,2-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,2,4-Trichlorobenzene	0.80	Not Detected	5.9	Not Detected
Hexachlorobutadiene	0.80	Not Detected	8.5	Not Detected

J0 = Estimated value due to bias in the CCV.

	,	Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	125	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130



Client Sample ID: Plate Storage-8hr Lab ID#: 1505180-03B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e051218sim	Date of Collection: 5/5/15 4:50:00 PM
Dil. Factor:	1.59	Date of Analysis: 5/12/15 08:55 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.016	Not Detected	0.041	Not Detected
1,1-Dichloroethene	0.016	Not Detected	0.063	Not Detected
1,1-Dichloroethane	0.032	Not Detected	0.13	Not Detected
cis-1,2-Dichloroethene	0.032	Not Detected	0.13	Not Detected
1,1,1-Trichloroethane	0.032	Not Detected	0.17	Not Detected
Benzene	0.080	Not Detected	0.25	Not Detected
1,2-Dichloroethane	0.032	Not Detected	0.13	Not Detected
Trichloroethene	0.032	Not Detected	0.17	Not Detected
Toluene	0.032	0.087	0.12	0.33
1,1,2-Trichloroethane	0.032	Not Detected	0.17	Not Detected
Tetrachloroethene	0.032	Not Detected	0.22	Not Detected
Ethyl Benzene	0.032	Not Detected	0.14	Not Detected
m,p-Xylene	0.064	0.10	0.28	0.45
o-Xylene	0.032	0.042	0.14	0.18
1,1,2,2-Tetrachloroethane	0.032	Not Detected	0.22	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.57	Not Detected

Surrogates	%Recovery	меtnod Limits
1,2-Dichloroethane-d4	125	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130



Client Sample ID: SSVP-1 Lab ID#: 1505180-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051311 Date of Collection: 5/5/15 5:36:00 PM
Dil. Factor: 1.48 Date of Analysis: 5/13/15 02:51 PM

Dil. Factor:	1.48	Date	of Analysis: 5/13	/15 02:51 PM
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.15	0.53	0.73	2.6
Freon 114	0.15	Not Detected	1.0	Not Detected
Chloromethane	0.74	1.2	1.5	2.4
1,3-Butadiene	0.15	Not Detected	0.33	Not Detected
Bromomethane	0.74	Not Detected	2.9	Not Detected
Chloroethane	0.74	Not Detected	2.0	Not Detected
Freon 11	0.15	0.27	0.83	1.5
Ethanol	0.74	1.1	1.4	2.1
Freon 113	0.15	Not Detected	1.1	Not Detected
Acetone	0.74	5.5 J0	1.8	13 J0
2-Propanol	0.74	Not Detected	1.8	Not Detected
Carbon Disulfide	0.74	Not Detected	2.3	Not Detected
3-Chloropropene	0.74	Not Detected	2.3	Not Detected
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
Hexane	0.15	0.20	0.52	0.72
2-Butanone (Methyl Ethyl Ketone)	0.74	1.2	2.2	3.5
Tetrahydrofuran	0.74	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.72	Not Detected
Cyclohexane	0.15	Not Detected	0.51	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.93	Not Detected
2,2,4-Trimethylpentane	0.74	Not Detected	3.4	Not Detected
Heptane	0.15	Not Detected	0.61	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.68	Not Detected
1,4-Dioxane	0.15	Not Detected	0.53	Not Detected
Bromodichloromethane	0.15	Not Detected	0.99	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.67	Not Detected
4-Methyl-2-pentanone	0.15	1.3	0.61	5.4
trans-1,3-Dichloropropene	0.15	Not Detected	0.67	Not Detected
2-Hexanone	0.74	Not Detected	3.0	Not Detected
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.15	Not Detected	1.1	Not Detected
Chlorobenzene	0.15	Not Detected	0.68	Not Detected
Styrene	0.15	Not Detected	0.63	Not Detected
Bromoform	0.15	Not Detected	1.5	Not Detected
Cumene	0.15	Not Detected	0.73	Not Detected
Propylbenzene	0.15	Not Detected	0.73	Not Detected
4-Ethyltoluene	0.15	0.16	0.73	0.79
1,3,5-Trimethylbenzene	0.15	Not Detected	0.73	Not Detected
1,2,4-Trimethylbenzene	0.15	0.17	0.73	0.82
1,3-Dichlorobenzene	0.15	Not Detected	0.89	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.89	Not Detected
alpha-Chlorotoluene	0.15	Not Detected	0.77	Not Detected



Client Sample ID: SSVP-1 Lab ID#: 1505180-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e051311	Date of Collection: 5/5/15 5:36:00 PM
Dil. Factor:	1.48	Date of Analysis: 5/13/15 02:51 PM

Compound	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
1,2-Dichlorobenzene	0.15	Not Detected	0.89	Not Detected
1,2,4-Trichlorobenzene	0.74	Not Detected	5.5	Not Detected
Hexachlorobutadiene	0.74	Not Detected	7.9	Not Detected

J0 = Estimated value due to bias in the CCV.

• •		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	125	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	103	70-130	



Client Sample ID: SSVP-1 Lab ID#: 1505180-04B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051311sim Date of Collection: 5/5/15 5:36:00 PM Dil. Factor: 1.48 Date of Analysis: 5/13/15 02:51 PM

1.70	Date	or milaryolo: or lor	10 02:01 1 111
Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
0.015	Not Detected	0.038	Not Detected
0.015	Not Detected	0.059	Not Detected
0.030	Not Detected	0.12	Not Detected
0.030	Not Detected	0.12	Not Detected
0.030	2.3	0.16	12
0.074	0.074	0.24	0.24
0.030	0.030	0.12	0.12
0.030	Not Detected	0.16	Not Detected
0.030	0.27	0.11	1.0
0.030	Not Detected	0.16	Not Detected
0.030	0.82	0.20	5.6
0.030	0.74	0.13	3.2
0.059	4.2	0.26	18
0.030	1.4	0.13	6.3
0.030	Not Detected	0.20	Not Detected
0.15	Not Detected	0.59	Not Detected
0.15	Not Detected	0.53	Not Detected
	Rpt. Limit (ppbv) 0.015 0.015 0.030 0.030 0.030 0.030 0.030 0.030 0.030 0.030 0.030 0.030 0.030 0.030 0.030 0.030 0.059 0.030 0.030 0.030 0.030 0.030 0.059	Rpt. Limit (ppbv) Amount (ppbv) 0.015 Not Detected 0.015 Not Detected 0.030 Not Detected 0.030 Not Detected 0.030 Not Detected 0.030 0.074 0.030 0.030 0.030 Not Detected 0.030 0.27 0.030 Not Detected 0.030 0.74 0.059 4.2 0.030 Not Detected 0.030 Not Detected	Rpt. Limit (ppbv) Amount (ppbv) Rpt. Limit (ug/m3) 0.015 Not Detected 0.038 0.015 Not Detected 0.059 0.030 Not Detected 0.12 0.030 Not Detected 0.12 0.030 2.3 0.16 0.074 0.074 0.24 0.030 0.030 0.12 0.030 Not Detected 0.16 0.030 0.27 0.11 0.030 Not Detected 0.16 0.030 0.82 0.20 0.030 0.74 0.13 0.059 4.2 0.26 0.030 1.4 0.13 0.030 Not Detected 0.59

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	128	70-130	
Toluene-d8	104	70-130	
4-Bromofluorobenzene	110	70-130	



2-Hexanone

Client Sample ID: SSVP-2 Lab ID#: 1505180-05A

EPA METHOD TO-15 GC/MS

File Name: Dil. Factor:	14052028 76.0		of Collection: 5/5 of Analysis: 5/20	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	380	Not Detected	1900	Not Detected
Freon 114	380	Not Detected	2600	Not Detected
Chloromethane	1500	Not Detected	3100	Not Detected
Vinyl Chloride	380	Not Detected	970	Not Detected
1,3-Butadiene	380	Not Detected	840	Not Detected
Bromomethane	380	Not Detected	1500	Not Detected
Chloroethane	1500	Not Detected	4000	Not Detected
Freon 11	380	Not Detected	2100	Not Detected
Ethanol	1500	Not Detected	2900	Not Detected
Freon 113	380	Not Detected	2900	Not Detected
1,1-Dichloroethene	380	Not Detected	1500	Not Detected
Acetone	1500	19000	3600	45000
2-Propanol	1500	Not Detected	3700	Not Detected
Carbon Disulfide	380	Not Detected	1200	Not Detected
3-Chloropropene	1500	Not Detected	4800	Not Detected
Methylene Chloride	380	Not Detected	1300	Not Detected
Methyl tert-butyl ether	380	Not Detected	1400	Not Detected
trans-1,2-Dichloroethene	380	Not Detected	1500	Not Detected
Hexane	380	390	1300	1400
1,1-Dichloroethane	380	660	1500	2600
2-Butanone (Methyl Ethyl Ketone)	1500	2000	4500	5900
cis-1,2-Dichloroethene	380	Not Detected	1500	Not Detected
Tetrahydrofuran	380	Not Detected	1100	Not Detected
Chloroform	380	Not Detected	1800	Not Detected
1,1,1-Trichloroethane	380	8800	2100	48000
Cyclohexane	380	Not Detected	1300	Not Detected
Carbon Tetrachloride	380	Not Detected	2400	Not Detected
2,2,4-Trimethylpentane	380	970	1800	4500
Benzene	380	Not Detected	1200	Not Detected
1,2-Dichloroethane	380	Not Detected	1500	Not Detected
Heptane	380	400	1600	1600
Trichloroethene	380	Not Detected	2000	Not Detected
1,2-Dichloropropane	380	Not Detected	1800	Not Detected
1,4-Dioxane	1500	Not Detected	5500	Not Detected
Bromodichloromethane	380	Not Detected	2500	Not Detected
cis-1,3-Dichloropropene	380	Not Detected	1700	Not Detected
4-Methyl-2-pentanone	380	210000	1600	850000
Toluene	380	5400	1400	20000
trans-1,3-Dichloropropene	380	Not Detected	1700	Not Detected
1,1,2-Trichloroethane	380	Not Detected	2100	Not Detected
Tetrachloroethene	380	830	2600	5600
. 55.110100110110				

Not Detected

6200

Not Detected

1500



Client Sample ID: SSVP-2 Lab ID#: 1505180-05A

EPA METHOD TO-15 GC/MS

File Name:	14052028	Date of Collection: 5/5/15 5:30:00 PM
Dil. Factor:	76.0	Date of Analysis: 5/20/15 07:42 PM

DII. Factor.	76.0	Date of Analysis: 5/20/15 07:42 PW		/15 U/:42 PW
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	380	Not Detected	3200	Not Detected
1,2-Dibromoethane (EDB)	380	Not Detected	2900	Not Detected
Chlorobenzene	380	Not Detected	1700	Not Detected
Ethyl Benzene	380	8900	1600	39000
m,p-Xylene	380	37000	1600	160000
o-Xylene	380	17000	1600	73000
Styrene	380	Not Detected	1600	Not Detected
Bromoform	380	Not Detected	3900	Not Detected
Cumene	380	3600	1900	18000
1,1,2,2-Tetrachloroethane	380	Not Detected	2600	Not Detected
Propylbenzene	380	10000	1900	49000
4-Ethyltoluene	380	54000	1900	270000
1,3,5-Trimethylbenzene	380	24000	1900	120000
1,2,4-Trimethylbenzene	380	47000	1900	230000
1,3-Dichlorobenzene	380	Not Detected	2300	Not Detected
1,4-Dichlorobenzene	380	Not Detected	2300	Not Detected
alpha-Chlorotoluene	380	Not Detected	2000	Not Detected
1,2-Dichlorobenzene	380	Not Detected	2300	Not Detected
1,2,4-Trichlorobenzene	1500	Not Detected	11000	Not Detected
Hexachlorobutadiene	1500	Not Detected	16000	Not Detected

	,	Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	90	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	97	70-130	



Client Sample ID: SSVP-3 Lab ID#: 1505180-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: 20051418 Date of Collection: 5/5/15 5:22:00 PM Dil. Factor: 3.16 Date of Analysis: 5/15/15 06:03 AM

Dil. Factor:	3.16	Date of Analysis: 5/15/15 06:03		
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.32	Not Detected	1.6	Not Detected
Freon 114	0.32	Not Detected	2.2	Not Detected
Chloromethane	1.6	Not Detected	3.3	Not Detected
1,3-Butadiene	0.32	Not Detected	0.70	Not Detected
Bromomethane	1.6	Not Detected	6.1	Not Detected
Chloroethane	1.6	Not Detected	4.2	Not Detected
Freon 11	0.32	Not Detected	1.8	Not Detected
Ethanol	1.6	Not Detected	3.0	Not Detected
Freon 113	0.32	Not Detected	2.4	Not Detected
Acetone	1.6	2.7	3.8	6.4
2-Propanol	1.6	Not Detected	3.9	Not Detected
Carbon Disulfide	1.6	Not Detected	4.9	Not Detected
3-Chloropropene	1.6	Not Detected	4.9	Not Detected
Methylene Chloride	0.63	Not Detected	2.2	Not Detected
Hexane	0.32	Not Detected	1.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.6	Not Detected	4.6	Not Detected
Tetrahydrofuran	1.6	Not Detected	4.6	Not Detected
Chloroform	0.32	Not Detected	1.5	Not Detected
Cyclohexane	0.32	Not Detected	1.1	Not Detected
Carbon Tetrachloride	0.32	Not Detected	2.0	Not Detected
2,2,4-Trimethylpentane	1.6	Not Detected	7.4	Not Detected
Heptane	0.32	Not Detected	1.3	Not Detected
1,2-Dichloropropane	0.32	Not Detected	1.5	Not Detected
1,4-Dioxane	0.32	Not Detected	1.1	Not Detected
Bromodichloromethane	0.32	Not Detected	2.1	Not Detected
cis-1,3-Dichloropropene	0.32	Not Detected	1.4	Not Detected
4-Methyl-2-pentanone	0.32	Not Detected	1.3	Not Detected
trans-1,3-Dichloropropene	0.32	Not Detected	1.4	Not Detected
2-Hexanone	1.6	Not Detected	6.5	Not Detected
Dibromochloromethane	0.32	Not Detected	2.7	Not Detected
1,2-Dibromoethane (EDB)	0.32	Not Detected	2.4	Not Detected
Chlorobenzene	0.32	Not Detected	1.4	Not Detected
Styrene	0.32	Not Detected	1.3	Not Detected
Bromoform	0.32	Not Detected	3.3	Not Detected
Cumene	0.32	Not Detected	1.6	Not Detected
Propylbenzene	0.32	Not Detected	1.6	Not Detected
4-Ethyltoluene	0.32	Not Detected	1.6	Not Detected
1,3,5-Trimethylbenzene	0.32	Not Detected	1.6	Not Detected
1,2,4-Trimethylbenzene	0.32	Not Detected	1.6	Not Detected
1,3-Dichlorobenzene	0.32	Not Detected	1.9	Not Detected
1,4-Dichlorobenzene	0.32	Not Detected	1.9	Not Detected
alpha-Chlorotoluene	0.32	Not Detected	1.6	Not Detected



Client Sample ID: SSVP-3 Lab ID#: 1505180-06A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20051418	Date of Collection: 5/5/15 5:22:00 PM
Dil. Factor:	3.16	Date of Analysis: 5/15/15 06:03 AM

Compound	Rpt. Limit (ppby)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Compound	(bbpa)	(bbpa)	(ug/ilis)	(ug/iiis)
1,2-Dichlorobenzene	0.32	Not Detected	1.9	Not Detected
1,2,4-Trichlorobenzene	1.6	Not Detected	12	Not Detected
Hexachlorobutadiene	1.6	Not Detected	17	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	104	70-130	
Toluene-d8	96	70-130	
4-Bromofluorobenzene	95	70-130	



Client Sample ID: SSVP-3 Lab ID#: 1505180-06B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20051418sim	Date of Collection: 5/5/15 5:22:00 PM
Dil. Factor:	3.16	Date of Analysis: 5/15/15 06:03 AM

	0			
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.032	Not Detected	0.081	Not Detected
1,1-Dichloroethene	0.032	Not Detected	0.12	Not Detected
1,1-Dichloroethane	0.063	Not Detected	0.26	Not Detected
cis-1,2-Dichloroethene	0.063	Not Detected	0.25	Not Detected
1,1,1-Trichloroethane	0.063	36	0.34	200
Benzene	0.16	Not Detected	0.50	Not Detected
1,2-Dichloroethane	0.063	Not Detected	0.26	Not Detected
Trichloroethene	0.063	Not Detected	0.34	Not Detected
Toluene	0.063	0.11	0.24	0.41
1,1,2-Trichloroethane	0.063	Not Detected	0.34	Not Detected
Tetrachloroethene	0.063	32	0.43	210
Ethyl Benzene	0.063	Not Detected	0.27	Not Detected
m,p-Xylene	0.13	Not Detected	0.55	Not Detected
o-Xylene	0.063	Not Detected	0.27	Not Detected
1,1,2,2-Tetrachloroethane	0.063	Not Detected	0.43	Not Detected
trans-1,2-Dichloroethene	0.32	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.32	Not Detected	1.1	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	102	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	98	70-130	



Client Sample ID: Lab Blank Lab ID#: 1505180-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051206 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/12/15 10:36 AM

Dil. Factor:	1.00 Date of Analysis: 5/12/15 10:36 A			
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 114	0.10	Not Detected	0.70	Not Detected
Chloromethane	0.50	Not Detected	1.0	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
Acetone	0.50	Not Detected UJ	1.2	Not Detected UJ
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Hexane	0.10	Not Detected	0.35	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
Carbon Tetrachloride	0.10	Not Detected	0.63	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Heptane	0.10	Not Detected	0.41	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Bromodichloromethane	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
2-Hexanone	0.50	Not Detected	2.0	Not Detected
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected
1,2-Dibromoethane (EDB)	0.10	Not Detected	0.77	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0.10	Not Detected	1.0	Not Detected
Cumene	0.10	Not Detected	0.49	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	0.52	Not Detected
•				



Client Sample ID: Lab Blank Lab ID#: 1505180-07A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e051206	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/12/15 10:36 AM

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected

UJ = Analyte associated with low bias in the CCV and/or LCS.

<i>,</i>		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	95	70-130



Client Sample ID: Lab Blank Lab ID#: 1505180-07B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e051206sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/12/15 10:36 AM

Dil. i actor.	1.00	Date	OI Allalysis. Ji 12	13 10.30 AW
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Benzene	0.050	Not Detected	0.16	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Toluene	0.020	Not Detected	0.075	Not Detected
1,1,2-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
Ethyl Benzene	0.020	Not Detected	0.087	Not Detected
m,p-Xylene	0.040	Not Detected	0.17	Not Detected
o-Xylene	0.020	Not Detected	0.087	Not Detected
1,1,2,2-Tetrachloroethane	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	127	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130



Client Sample ID: Lab Blank Lab ID#: 1505180-07C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051306 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/13/15 10:55 AM

Dil. Factor:	1.00	Date	of Analysis: 5/13	3/15 10:55 AM
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 114	0.10	Not Detected	0.70	Not Detected
Chloromethane	0.50	Not Detected	1.0	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
Acetone	0.50	Not Detected UJ	1.2	Not Detected UJ
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Hexane	0.10	Not Detected	0.35	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
Carbon Tetrachloride	0.10	Not Detected	0.63	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Heptane	0.10	Not Detected	0.41	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Bromodichloromethane	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
2-Hexanone	0.50	Not Detected	2.0	Not Detected
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected
1,2-Dibromoethane (EDB)	0.10	Not Detected	0.77	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0.10	Not Detected	1.0	Not Detected
Cumene	0.10	Not Detected	0.49	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	0.52	Not Detected



Client Sample ID: Lab Blank Lab ID#: 1505180-07C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e051306	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/13/15 10:55 AM

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected

UJ = Analyte associated with low bias in the CCV and/or LCS.

<i>,</i>		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130



Client Sample ID: Lab Blank Lab ID#: 1505180-07D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e051306sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/13/15 10:55 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Benzene	0.050	Not Detected	0.16	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Toluene	0.020	Not Detected	0.075	Not Detected
1,1,2-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
Ethyl Benzene	0.020	Not Detected	0.087	Not Detected
m,p-Xylene	0.040	Not Detected	0.17	Not Detected
o-Xylene	0.020	Not Detected	0.087	Not Detected
1,1,2,2-Tetrachloroethane	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected

Surrogates	%Recovery	меtnod Limits
1,2-Dichloroethane-d4	129	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130



Client Sample ID: Lab Blank Lab ID#: 1505180-07E

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: 20051406 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/14/15 01:06 PM

Dil. Factor:	1.00	Date	of Analysis: 5/14	/15 01:06 PM
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 114	0.10	Not Detected	0.70	Not Detected
Chloromethane	0.50	Not Detected	1.0	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Hexane	0.10	Not Detected	0.35	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
Carbon Tetrachloride	0.10	Not Detected	0.63	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Heptane	0.10	Not Detected	0.41	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Bromodichloromethane	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
2-Hexanone	0.50	Not Detected	2.0	Not Detected
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected
1,2-Dibromoethane (EDB)	0.10	Not Detected	0.77	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0.10	Not Detected	1.0	Not Detected
Cumene	0.10	Not Detected	0.49	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	0.52	Not Detected



4-Bromofluorobenzene

Client Sample ID: Lab Blank Lab ID#: 1505180-07E

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: Dil. Factor:	20051406 1.00	Date of Collection: NA Date of Analysis: 5/14/15 01:06 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected
Container Type: NA - Not App	olicable			
Surrogates		%Recovery		Method Limits
1,2-Dichloroethane-d4		106		70-130
Toluene-d8		96		70-130

98

70-130



Client Sample ID: Lab Blank Lab ID#: 1505180-07F

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20051406sim	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/14/15 01:06 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
1,1-Dichloroethene	0.010	Not Detected	0.040	Not Detected
1,1-Dichloroethane	0.020	Not Detected	0.081	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
1,1,1-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Benzene	0.050	Not Detected	0.16	Not Detected
1,2-Dichloroethane	0.020	Not Detected	0.081	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
Toluene	0.020	Not Detected	0.075	Not Detected
1,1,2-Trichloroethane	0.020	Not Detected	0.11	Not Detected
Tetrachloroethene	0.020	Not Detected	0.14	Not Detected
Ethyl Benzene	0.020	Not Detected	0.087	Not Detected
m,p-Xylene	0.040	Not Detected	0.17	Not Detected
o-Xylene	0.020	Not Detected	0.087	Not Detected
1,1,2,2-Tetrachloroethane	0.020	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	105	70-130	
Toluene-d8	98	70-130	
4-Bromofluorobenzene	98	70-130	



Client Sample ID: Lab Blank Lab ID#: 1505180-07G

EPA METHOD TO-15 GC/MS

File Name: Dil. Factor:	14052008 1.00		of Collection: NA of Analysis: 5/20	/15 11:39 AM
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	5.0	Not Detected	25	Not Detected
Freon 114	5.0	Not Detected	35	Not Detected
Chloromethane	20	Not Detected	41	Not Detected
Vinyl Chloride	5.0	Not Detected	13	Not Detected
1,3-Butadiene	5.0	Not Detected	11	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	20	Not Detected	53	Not Detected
Freon 11	5.0	Not Detected	28	Not Detected
Ethanol	20	Not Detected	38	Not Detected
Freon 113	5.0	Not Detected	38	Not Detected
1,1-Dichloroethene	5.0	Not Detected	20	Not Detected
Acetone	20	Not Detected	48	Not Detected
2-Propanol	20	Not Detected	49	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
3-Chloropropene	20	Not Detected	63	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	5.0	Not Detected	18	Not Detecte
trans-1,2-Dichloroethene	5.0	Not Detected	20	Not Detecte
Hexane	5.0	Not Detected	18	Not Detecte
1,1-Dichloroethane	5.0	Not Detected	20	Not Detecte
2-Butanone (Methyl Ethyl Ketone)	20	Not Detected	59	Not Detecte
cis-1,2-Dichloroethene	5.0	Not Detected	20	Not Detected
Tetrahydrofuran	5.0	Not Detected	15	Not Detected
Chloroform	5.0	Not Detected	24	Not Detected
1,1,1-Trichloroethane	5.0	Not Detected	27	Not Detected
Cyclohexane	5.0	Not Detected	17	Not Detected
Carbon Tetrachloride	5.0	Not Detected	31	Not Detected
2,2,4-Trimethylpentane	5.0	Not Detected	23	Not Detecte
Benzene	5.0	Not Detected	16	Not Detected
1,2-Dichloroethane	5.0	Not Detected	20	Not Detected
Heptane	5.0	Not Detected	20	Not Detected
Trichloroethene	5.0	Not Detected	27	Not Detected
1,2-Dichloropropane	5.0	Not Detected	23	Not Detected
1,4-Dioxane	20	Not Detected	72	Not Detected
Bromodichloromethane	5.0	Not Detected	34	Not Detected
cis-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
4-Methyl-2-pentanone	5.0	Not Detected	20	Not Detected
Toluene	5.0	Not Detected	19	Not Detected
trans-1,3-Dichloropropene	5.0	Not Detected	23	Not Detected
1,1,2-Trichloroethane	5.0	Not Detected	27	Not Detected
Tetrachloroethene	5.0	Not Detected	34	Not Detected
2-Hexanone	20	Not Detected	82	Not Detected



Client Sample ID: Lab Blank Lab ID#: 1505180-07G

EPA METHOD TO-15 GC/MS

File Name:	14052008	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/20/15 11:39 AM

Dili. I dotor.	1.00	Date	Ol Allalysis. SIZU	13 11.33 AN
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	5.0	Not Detected	42	Not Detected
1,2-Dibromoethane (EDB)	5.0	Not Detected	38	Not Detected
Chlorobenzene	5.0	Not Detected	23	Not Detected
Ethyl Benzene	5.0	Not Detected	22	Not Detected
m,p-Xylene	5.0	Not Detected	22	Not Detected
o-Xylene	5.0	Not Detected	22	Not Detected
Styrene	5.0	Not Detected	21	Not Detected
Bromoform	5.0	Not Detected	52	Not Detected
Cumene	5.0	Not Detected	24	Not Detected
1,1,2,2-Tetrachloroethane	5.0	Not Detected	34	Not Detected
Propylbenzene	5.0	Not Detected	24	Not Detected
4-Ethyltoluene	5.0	Not Detected	24	Not Detected
1,3,5-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,2,4-Trimethylbenzene	5.0	Not Detected	24	Not Detected
1,3-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,4-Dichlorobenzene	5.0	Not Detected	30	Not Detected
alpha-Chlorotoluene	5.0	Not Detected	26	Not Detected
1,2-Dichlorobenzene	5.0	Not Detected	30	Not Detected
1,2,4-Trichlorobenzene	20	Not Detected	150	Not Detected
Hexachlorobutadiene	20	Not Detected	210	Not Detected

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	95	70-130



Client Sample ID: CCV Lab ID#: 1505180-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051202 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/12/15 07:22 AM

Compound	%Recovery	
Freon 12	122	
Freon 114	118	
Chloromethane	98	
1,3-Butadiene	90	
Bromomethane	90	
Chloroethane	77	
Freon 11	112	
Ethanol	74	
Freon 113	96	
Acetone	68 Q	
2-Propanol	90	
Carbon Disulfide	82	
3-Chloropropene	83	
Methylene Chloride	82	
Hexane	97	
2-Butanone (Methyl Ethyl Ketone)	89	
Tetrahydrofuran	94	
Chloroform	110	
Cyclohexane	98	
Carbon Tetrachloride	133 Q	
2,2,4-Trimethylpentane	91	
Heptane	100	
1,2-Dichloropropane	84	
1,4-Dioxane	91	
Bromodichloromethane	109	
cis-1,3-Dichloropropene	87	
4-Methyl-2-pentanone	95	
trans-1,3-Dichloropropene	95	
2-Hexanone	86	
Dibromochloromethane	116	
1,2-Dibromoethane (EDB)	106	
Chlorobenzene	96	
Styrene	115	
Bromoform	106	
Cumene	109	
Propylbenzene	102	
4-Ethyltoluene	107	
1,3,5-Trimethylbenzene	124	
1,2,4-Trimethylbenzene	102	
1,3-Dichlorobenzene	110	
1,4-Dichlorobenzene	110	
alpha-Chlorotoluene	88	



Client Sample ID: CCV Lab ID#: 1505180-08A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051202 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/12/15 07:22 AM

Compound	%Recovery	
1,2-Dichlorobenzene	107	
1,2,4-Trichlorobenzene	82	
Hexachlorobutadiene	81	

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	122	70-130	
Toluene-d8	89	70-130	
4-Bromofluorobenzene	100	70-130	



Client Sample ID: CCV Lab ID#: 1505180-08B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051202sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/12/15 07:22 AM

Compound	%Recovery	
Vinyl Chloride	84	
1,1-Dichloroethene	81	
1,1-Dichloroethane	101	
cis-1,2-Dichloroethene	97	
1,1,1-Trichloroethane	121	
Benzene	83	
1,2-Dichloroethane	130	
Trichloroethene	94	
Toluene	92	
1,1,2-Trichloroethane	93	
Tetrachloroethene	102	
Ethyl Benzene	105	
m,p-Xylene	114	
o-Xylene	115	
1,1,2,2-Tetrachloroethane	79	
trans-1,2-Dichloroethene	100	
Methyl tert-butyl ether	106	

Surrogatos	%Recovery	Method Limits
Surrogates	/onecovery	Lillits
1,2-Dichloroethane-d4	124	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	100	70-130



Client Sample ID: CCV Lab ID#: 1505180-08C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051302 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/13/15 07:32 AM

Compound	%Recovery	
Freon 12	119	
Freon 114	114	
Chloromethane	92	
1,3-Butadiene	87	
Bromomethane	87	
Chloroethane	76	
Freon 11	112	
Ethanol	77	
Freon 113	91	
Acetone	65 Q	
2-Propanol	84	
Carbon Disulfide	77	
3-Chloropropene	80	
Methylene Chloride	77	
Hexane	97	
2-Butanone (Methyl Ethyl Ketone)	86	
Tetrahydrofuran	93	
Chloroform	107	
Cyclohexane	95	
Carbon Tetrachloride	130	
2,2,4-Trimethylpentane	91	
Heptane	92	
1,2-Dichloropropane	84	
1,4-Dioxane	92	
Bromodichloromethane	108	
cis-1,3-Dichloropropene	84	
4-Methyl-2-pentanone	89	
trans-1,3-Dichloropropene	98	
2-Hexanone	82	
Dibromochloromethane	120	
1,2-Dibromoethane (EDB)	108	
Chlorobenzene	97	
Styrene	117	
Bromoform	108	
Cumene	111	
Propylbenzene	104	
4-Ethyltoluene	111	
1,3,5-Trimethylbenzene	127	
1,2,4-Trimethylbenzene	109	
1,3-Dichlorobenzene	114	
1,4-Dichlorobenzene	111	
alpha-Chlorotoluene	91	



Client Sample ID: CCV Lab ID#: 1505180-08C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051302 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/13/15 07:32 AM

Compound	%Recovery	
1,2-Dichlorobenzene	110	
1,2,4-Trichlorobenzene	97	
Hexachlorobutadiene	91	

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	123	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	99	70-130



Client Sample ID: CCV Lab ID#: 1505180-08D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051302sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/13/15 07:32 AM

Compound	%Recovery	
Vinyl Chloride	82	
1,1-Dichloroethene	79	
1,1-Dichloroethane	99	
cis-1,2-Dichloroethene	95	
1,1,1-Trichloroethane	120	
Benzene	81	
1,2-Dichloroethane	130	
Trichloroethene	93	
Toluene	90	
1,1,2-Trichloroethane	91	
Tetrachloroethene	100	
Ethyl Benzene	105	
m,p-Xylene	113	
o-Xylene	115	
1,1,2,2-Tetrachloroethane	78	
trans-1,2-Dichloroethene	98	
Methyl tert-butyl ether	104	

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	125	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	100	70-130



Client Sample ID: CCV Lab ID#: 1505180-08E

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: 20051402 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/14/15 09:35 AM

Freon 12 108 Freon 114 106 Chloromethane 104 1,3-Butadiene 104 Bromomethane 114 Chloroethane 103 Freon 11 107 Ethanol 107 Freon 113 102 Acetone 98 2-Propanol 106 Carbon Disulfide 108 3-Chloropropene 112 Methylene Chloride 103 Hexane 110 2-Butanone (Methyl Ethyl Ketone) 107 Tetrahydrofuran 108 Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2,2,4-Timethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-H	Compound	%Recovery	
Chloromethane 104 1,3-Butadiene 104 Bromomethane 114 Chloroethane 103 Freon 11 107 Ethanol 107 Freon 113 102 Acetone 98 2-Propanol 106 Carbon Disulfide 108 3-Chloropropene 112 Methylene Chloride 103 Hexane 110 2-Butanone (Methyl Ethyl Ketone) 107 Tetrahydrofuran 108 Chlorotorm 105 Cyclohexane 109 Carbon Tetrachloride 104 2,2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dixane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 103 2-Hexanone 103 Dibromochloromethane (EDB) 111 <	Freon 12	108	
1,3-Butadiene 104 Bromomethane 114 Chloroethane 103 Freon 11 107 Ethanol 107 Freon 113 102 Acetone 98 2-Propanol 106 Carbon Disulfide 108 3-Chloropropene 112 Methylene Chloride 103 Hexane 110 2-Butanone (Methyl Ethyl Ketone) 107 Tetrahydrofuran 108 Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2,2,4-Trimethylentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 2-Dibromochloromethane 112 12-Dibromochloromethane 112	Freon 114	106	
Bromomethane 114 Chloroethane 103 Freon 11 107 Ethanol 107 Freon 113 102 Acetone 98 2-Propanol 106 Carbon Disulfide 108 3-Chloropropene 112 Methylene Chloride 103 Hexane 110 2-Butanone (Methyl Ethyl Ketone) 107 Tetrahydrofuran 108 Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2,2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 103 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromochlane (EDB) 111 Chlorobenzene 104	Chloromethane	104	
Chloroethane 103 Freon 11 107 Ethanol 107 Freon 113 102 Acetone 98 2-Propanol 106 Carbon Disulfide 108 3-Chloropropene 112 Methylene Chloride 103 Hexane 110 2-Butanone (Methyl Ethyl Ketone) 107 Tetrahydrofuran 108 Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2-2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 <	1,3-Butadiene	104	
Freon 11 107 Ethanol 107 Freon 113 102 Acetone 98 2-Propanol 106 Carbon Disulfide 108 3-Chloropropene 112 Methylene Chloride 103 Hexane 110 2-Butanone (Methyl Ethyl Ketone) 107 Tetrahydrofuran 108 Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2,2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 104 4-Et	Bromomethane	114	
Ethanol 107 Freon 113 102 Acetone 98 2-Propanol 106 Carbon Disulfide 108 3-Chloropropene 112 Methylene Chloride 103 Hexane 110 2-Butanone (Methyl Ethyl Ketone) 107 Tetrahydrofuran 108 Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2,2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromdichloromethane 110 cis-1,3-Dichloropropene 110 -Hexanone 113 trans-1,3-Dichloropropene 109 -Hexanone 113 trans-1,3-Dichloropropene 104 +Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112	Chloroethane	103	
Freon 113 102 Acetone 98 2-Propanol 106 Carbon Disulfide 108 3-Chloropropene 112 Methylene Chloride 103 Hexane 110 2-Butanone (Methyl Ethyl Ketone) 107 Tetrahydrofuran 108 Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2,2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 2:-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 103 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 104 Frypylbenzene 104 <	Freon 11	107	
Acetone 98 2-Propanol 106 Carbon Disulfide 108 3-Chloropropene 112 Methylene Chloride 103 Hexane 110 2-Butanone (Methyl Ethyl Ketone) 107 Tetrahydrofuran 108 Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2,2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromochtane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 104 Fropylbenzene 104 4-Ethyltoluene 104	Ethanol	107	
2-Propanol 106 Carbon Disulfide 108 3-Chloropropene 112 Methylene Chloride 103 Hexane 110 2-Butanone (Methyl Ethyl Ketone) 107 Tetrahydrofuran 108 Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2,2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 104 Propylbenzene 104 4-Ethyltoluene 104 4,2,4-Trimethylbenzene 105 1,2,4-Dichlorobenzene	Freon 113	102	
Carbon Disulfide 108 3-Chloropropene 112 Methylene Chloride 103 Hexane 110 2-Butanone (Methyl Ethyl Ketone) 107 Tetrahydrofuran 108 Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2,2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromochlane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 104 Froyplenzene 104 4-Ethylloluene 104 1,3-5-Trimethylbenzene 105	Acetone	98	
Carbon Disulfide 108 3-Chloropropene 112 Methylene Chloride 103 Hexane 110 2-Butanone (Methyl Ethyl Ketone) 107 Tetrahydrofuran 108 Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2.2.4-Trimethylpentane 108 Heptane 112 1.2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromochlane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 100 Propylbenzene 104 4-Ethyltoluene 104 1,3-5-Trimethylbenzene 105 1,2-4-Trimethylbenzene	2-Propanol	106	
Methylene Chloride 103 Hexane 110 2-Butanone (Methyl Ethyl Ketone) 107 Tetrahydrofuran 108 Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2,2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene </td <td>· ·</td> <td>108</td> <td></td>	· ·	108	
Methylene Chloride 103 Hexane 110 2-Butanone (Methyl Ethyl Ketone) 107 Tetrahydrofuran 108 Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2,2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene </td <td>3-Chloropropene</td> <td>112</td> <td></td>	3-Chloropropene	112	
2-Butanone (Methyl Ethyl Ketone) 107 Tetrahydrofuran 108 Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2,2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3-5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-bichlorobenzene 99 1,4-Dichlorobenzene 97		103	
Tetrahydrofuran 108 Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2,2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	Hexane	110	
Tetrahydrofuran 108 Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2,2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	2-Butanone (Methyl Ethyl Ketone)	107	
Chloroform 105 Cyclohexane 109 Carbon Tetrachloride 104 2,2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 99 1,4-Dichlorobenzene 97 1,4-Dichlorobenzene 97		108	
Carbon Tetrachloride 104 2,2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	-	105	
2,2,4-Trimethylpentane 108 Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	Cyclohexane	109	
Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	Carbon Tetrachloride	104	
Heptane 112 1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	2,2,4-Trimethylpentane	108	
1,2-Dichloropropane 106 1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97		112	
1,4-Dioxane 111 Bromodichloromethane 110 cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	1,2-Dichloropropane	106	
cis-1,3-Dichloropropene 110 4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97		111	
4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	Bromodichloromethane	110	
4-Methyl-2-pentanone 113 trans-1,3-Dichloropropene 109 2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	cis-1,3-Dichloropropene	110	
2-Hexanone 103 Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97		113	
Dibromochloromethane 112 1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	trans-1,3-Dichloropropene	109	
1,2-Dibromoethane (EDB) 111 Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	2-Hexanone	103	
Chlorobenzene 104 Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	Dibromochloromethane	112	
Styrene 112 Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	1,2-Dibromoethane (EDB)	111	
Bromoform 111 Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	Chlorobenzene	104	
Cumene 110 Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	Styrene	112	
Propylbenzene 104 4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	Bromoform	111	
4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	Cumene	110	
4-Ethyltoluene 104 1,3,5-Trimethylbenzene 105 1,2,4-Trimethylbenzene 103 1,3-Dichlorobenzene 99 1,4-Dichlorobenzene 97	Propylbenzene	104	
1,2,4-Trimethylbenzene1031,3-Dichlorobenzene991,4-Dichlorobenzene97			
1,3-Dichlorobenzene991,4-Dichlorobenzene97	1,3,5-Trimethylbenzene		
1,4-Dichlorobenzene 97			
,	1,3-Dichlorobenzene	99	
alpha-Chlorotoluene 106	1,4-Dichlorobenzene		
	alpha-Chlorotoluene	106	



Client Sample ID: CCV Lab ID#: 1505180-08E

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20051402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/14/15 09:35 AM

Compound	%Recovery	
1,2-Dichlorobenzene	95	
1,2,4-Trichlorobenzene	90	
Hexachlorobutadiene	95	

		Method Limits
Surrogates	%Recovery	
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130



Client Sample ID: CCV Lab ID#: 1505180-08F

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: 20051402sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/14/15 09:35 AM

Compound	%Recovery	
Vinyl Chloride	100	
1,1-Dichloroethene	102	
1,1-Dichloroethane	103	
cis-1,2-Dichloroethene	105	
1,1,1-Trichloroethane	105	
Benzene	98	
1,2-Dichloroethane	98	
Trichloroethene	100	
Toluene	108	
1,1,2-Trichloroethane	104	
Tetrachloroethene	98	
Ethyl Benzene	111	
m,p-Xylene	111	
o-Xylene	111	
1,1,2,2-Tetrachloroethane	101	
trans-1,2-Dichloroethene	103	
Methyl tert-butyl ether	112	

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	102	70-130



Client Sample ID: CCV Lab ID#: 1505180-08G

EPA METHOD TO-15 GC/MS

File Name: 14052002 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/20/15 08:37 AM

Compound	%Recovery
Freon 12	82
Freon 114	84
Chloromethane	95
Vinyl Chloride	95
1,3-Butadiene	93
Bromomethane	76
Chloroethane	87
Freon 11	78
Ethanol	84
Freon 113	86
1,1-Dichloroethene	87
Acetone	99
2-Propanol	88
Carbon Disulfide	94
3-Chloropropene	91
Methylene Chloride	90
Methyl tert-butyl ether	112
trans-1,2-Dichloroethene	93
Hexane	93
1,1-Dichloroethane	92
2-Butanone (Methyl Ethyl Ketone)	95
cis-1,2-Dichloroethene	87
Tetrahydrofuran	96
Chloroform	84
1,1,1-Trichloroethane	80
Cyclohexane	91
Carbon Tetrachloride	80
2,2,4-Trimethylpentane	94
Benzene	92
1,2-Dichloroethane	78
Heptane	90
Trichloroethene	76
1,2-Dichloropropane	94
1,4-Dioxane	81
Bromodichloromethane	82
cis-1,3-Dichloropropene	88
4-Methyl-2-pentanone	79
Toluene	86
trans-1,3-Dichloropropene	87
1,1,2-Trichloroethane	90
Tetrachloroethene	85
2-Hexanone	88



Client Sample ID: CCV Lab ID#: 1505180-08G

EPA METHOD TO-15 GC/MS

File Name: 14052002 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/20/15 08:37 AM

Compound	%Recovery	
Dibromochloromethane	85	
1,2-Dibromoethane (EDB)	87	
Chlorobenzene	88	
Ethyl Benzene	86	
m,p-Xylene	89	
o-Xylene	86	
Styrene	93	
Bromoform	85	
Cumene	88	
1,1,2,2-Tetrachloroethane	107	
Propylbenzene	91	
4-Ethyltoluene	92	
1,3,5-Trimethylbenzene	95	
1,2,4-Trimethylbenzene	89	
1,3-Dichlorobenzene	86	
1,4-Dichlorobenzene	87	
alpha-Chlorotoluene	92	
1,2-Dichlorobenzene	87	
1,2,4-Trichlorobenzene	86	
Hexachlorobutadiene	93	

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	88	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	94	70-130	



Client Sample ID: LCS Lab ID#: 1505180-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051203 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/12/15 08:08 AM

		Method
Compound	%Recovery	Limits
Freon 12	113	70-130
Freon 114	109	70-130
Chloromethane	85	70-130
1,3-Butadiene	84	70-130
Bromomethane	80	70-130
Chloroethane	73	70-130
Freon 11	104	70-130
Ethanol	76	70-130
Freon 113	86	70-130
Acetone	68 Q	70-130
2-Propanol	92	70-130
Carbon Disulfide	62 Q	70-130
3-Chloropropene	74	70-130
Methylene Chloride	70	70-130
Hexane	87	70-130
2-Butanone (Methyl Ethyl Ketone)	80	70-130
Tetrahydrofuran	85	70-130
Chloroform	99	70-130
Cyclohexane	87	70-130
Carbon Tetrachloride	109	70-130
2,2,4-Trimethylpentane	83	70-130
Heptane	84	70-130
1,2-Dichloropropane	75	70-130
1,4-Dioxane	89	70-130
Bromodichloromethane	98	70-130
cis-1,3-Dichloropropene	73	70-130
4-Methyl-2-pentanone	91	70-130
trans-1,3-Dichloropropene	92	70-130
2-Hexanone	91	70-130
Dibromochloromethane	109	70-130
1,2-Dibromoethane (EDB)	98	70-130
Chlorobenzene	88	70-130
Styrene	106	70-130
Bromoform	100	70-130
Cumene	102	70-130
Propylbenzene	98	70-130
4-Ethyltoluene	101	70-130
1,3,5-Trimethylbenzene	119	70-130
1,2,4-Trimethylbenzene	99	70-130
1,3-Dichlorobenzene	103	70-130
1,4-Dichlorobenzene	102	70-130
alpha-Chlorotoluene	109	70-130



Client Sample ID: LCS Lab ID#: 1505180-09A

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051203 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/12/15 08:08 AM

Compound	%Recovery	Limits
1,2-Dichlorobenzene	103	70-130
1,2,4-Trichlorobenzene	97	70-130
Hexachlorobutadiene	84	70-130

Q = Exceeds Quality Control limits.

<i>,</i>		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	121	70-130	
Toluene-d8	89	70-130	
4-Bromofluorobenzene	94	70-130	



Client Sample ID: LCSD Lab ID#: 1505180-09AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051204 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/12/15 08:55 AM

		Method
Compound	%Recovery	Limits
Freon 12	110	70-130
Freon 114	108	70-130
Chloromethane	83	70-130
1,3-Butadiene	84	70-130
Bromomethane	79	70-130
Chloroethane	72	70-130
Freon 11	103	70-130
Ethanol	74	70-130
Freon 113	81	70-130
Acetone	62 Q	70-130
2-Propanol	90	70-130
Carbon Disulfide	59 Q	70-130
3-Chloropropene	71	70-130
Methylene Chloride	70	70-130
Hexane	84	70-130
2-Butanone (Methyl Ethyl Ketone)	76	70-130
Tetrahydrofuran	82	70-130
Chloroform	95	70-130
Cyclohexane	90	70-130
Carbon Tetrachloride	107	70-130
2,2,4-Trimethylpentane	82	70-130
Heptane	89	70-130
1,2-Dichloropropane	75	70-130
1,4-Dioxane	90	70-130
Bromodichloromethane	102	70-130
cis-1,3-Dichloropropene	75	70-130
4-Methyl-2-pentanone	94	70-130
trans-1,3-Dichloropropene	90	70-130
2-Hexanone	92	70-130
Dibromochloromethane	105	70-130
1,2-Dibromoethane (EDB)	99	70-130
Chlorobenzene	89	70-130
Styrene	106	70-130
Bromoform	99	70-130
Cumene	100	70-130
Propylbenzene	97	70-130
4-Ethyltoluene	102	70-130
1,3,5-Trimethylbenzene	117	70-130
1,2,4-Trimethylbenzene	98	70-130
1,3-Dichlorobenzene	100	70-130
1,4-Dichlorobenzene	101	70-130
alpha-Chlorotoluene	107	70-130



Client Sample ID: LCSD Lab ID#: 1505180-09AA

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	e051204	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/12/15 08:55 AM

Compound	%Recovery	Limits
1,2-Dichlorobenzene	102	70-130
1,2,4-Trichlorobenzene	94	70-130
Hexachlorobutadiene	82	70-130

Q = Exceeds Quality Control limits.

		Method Limits
Surrogates	%Recovery	
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	97	70-130



Client Sample ID: LCS Lab ID#: 1505180-09B

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051203sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/12/15 08:08 AM

		Method
Compound	%Recovery	Limits
Vinyl Chloride	79	70-130
1,1-Dichloroethene	76	70-130
1,1-Dichloroethane	91	70-130
cis-1,2-Dichloroethene	96	70-130
1,1,1-Trichloroethane	111	70-130
Benzene	75	70-130
1,2-Dichloroethane	117	70-130
Trichloroethene	86	70-130
Toluene	84	70-130
1,1,2-Trichloroethane	84	70-130
Tetrachloroethene	94	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	105	70-130
o-Xylene	108	70-130
1,1,2,2-Tetrachloroethane	74	70-130
trans-1,2-Dichloroethene	79	70-130
Methyl tert-butyl ether	91	70-130

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	124	70-130	
Toluene-d8	94	70-130	
4-Bromofluorobenzene	99	70-130	



Client Sample ID: LCSD Lab ID#: 1505180-09BB

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051204sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/12/15 08:55 AM

		Method
Compound	%Recovery	Limits
Vinyl Chloride	78	70-130
1,1-Dichloroethene	76	70-130
1,1-Dichloroethane	90	70-130
cis-1,2-Dichloroethene	96	70-130
1,1,1-Trichloroethane	110	70-130
Benzene	74	70-130
1,2-Dichloroethane	117	70-130
Trichloroethene	86	70-130
Toluene	84	70-130
1,1,2-Trichloroethane	84	70-130
Tetrachloroethene	93	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	104	70-130
o-Xylene	108	70-130
1,1,2,2-Tetrachloroethane	74	70-130
trans-1,2-Dichloroethene	78	70-130
Methyl tert-butyl ether	91	70-130

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	125	70-130	
Toluene-d8	94	70-130	
4-Bromofluorobenzene	100	70-130	



Client Sample ID: LCS Lab ID#: 1505180-09C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051303 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/13/15 08:23 AM

		Method
Compound	%Recovery	Limits
Freon 12	107	70-130
Freon 114	103	70-130
Chloromethane	79	70-130
1,3-Butadiene	76	70-130
Bromomethane	77	70-130
Chloroethane	70	70-130
Freon 11	101	70-130
Ethanol	73	70-130
Freon 113	80	70-130
Acetone	60 Q	70-130
2-Propanol	83	70-130
Carbon Disulfide	59 Q	70-130
3-Chloropropene	66 Q	70-130
Methylene Chloride	68 Q	70-130
Hexane	80	70-130
2-Butanone (Methyl Ethyl Ketone)	72	70-130
Tetrahydrofuran	80	70-130
Chloroform	93	70-130
Cyclohexane	81	70-130
Carbon Tetrachloride	104	70-130
2,2,4-Trimethylpentane	77	70-130
Heptane	89	70-130
1,2-Dichloropropane	74	70-130
1,4-Dioxane	91	70-130
Bromodichloromethane	102	70-130
cis-1,3-Dichloropropene	75	70-130
4-Methyl-2-pentanone	93	70-130
trans-1,3-Dichloropropene	92	70-130
2-Hexanone	89	70-130
Dibromochloromethane	109	70-130
1,2-Dibromoethane (EDB)	99	70-130
Chlorobenzene	88	70-130
Styrene	108	70-130
Bromoform	99	70-130
Cumene	104	70-130
Propylbenzene	96	70-130
4-Ethyltoluene	105	70-130
1,3,5-Trimethylbenzene	120	70-130
1,2,4-Trimethylbenzene	101	70-130
1,3-Dichlorobenzene	104	70-130
1,4-Dichlorobenzene	103	70-130
alpha-Chlorotoluene	109	70-130



Client Sample ID: LCS Lab ID#: 1505180-09C

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051303 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/13/15 08:23 AM

		Method	
Compound	%Recovery	Limits	
1,2-Dichlorobenzene	103	70-130	
1,2,4-Trichlorobenzene	100	70-130	
Hexachlorobutadiene	85	70-130	

Q = Exceeds Quality Control limits.

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	100	70-130



Client Sample ID: LCSD Lab ID#: 1505180-09CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051304 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/13/15 09:07 AM

		Method
Compound	%Recovery	Limits
Freon 12	114	70-130
Freon 114	109	70-130
Chloromethane	88	70-130
1,3-Butadiene	81	70-130
Bromomethane	80	70-130
Chloroethane	71	70-130
Freon 11	106	70-130
Ethanol	77	70-130
Freon 113	84	70-130
Acetone	62 Q	70-130
2-Propanol	91	70-130
Carbon Disulfide	60 Q	70-130
3-Chloropropene	67 Q	70-130
Methylene Chloride	72	70-130
Hexane	86	70-130
2-Butanone (Methyl Ethyl Ketone)	84	70-130
Tetrahydrofuran	88	70-130
Chloroform	100	70-130
Cyclohexane	84	70-130
Carbon Tetrachloride	110	70-130
2,2,4-Trimethylpentane	81	70-130
Heptane	86	70-130
1,2-Dichloropropane	72	70-130
1,4-Dioxane	85	70-130
Bromodichloromethane	99	70-130
cis-1,3-Dichloropropene	74	70-130
4-Methyl-2-pentanone	89	70-130
trans-1,3-Dichloropropene	93	70-130
2-Hexanone	91	70-130
Dibromochloromethane	110	70-130
1,2-Dibromoethane (EDB)	101	70-130
Chlorobenzene	90	70-130
Styrene	107	70-130
Bromoform	102	70-130
Cumene	104	70-130
Propylbenzene	99	70-130
4-Ethyltoluene	104	70-130
1,3,5-Trimethylbenzene	121	70-130
1,2,4-Trimethylbenzene	100	70-130
1,3-Dichlorobenzene	105	70-130
1,4-Dichlorobenzene	103	70-130
alpha-Chlorotoluene	112	70-130
aipha officiologofic	112	70 100



Client Sample ID: LCSD Lab ID#: 1505180-09CC

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051304 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/13/15 09:07 AM

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Compound	%Recovery	Limits	
1,2-Dichlorobenzene	104	70-130	
1,2,4-Trichlorobenzene	103	70-130	
Hexachlorobutadiene	86	70-130	

Q = Exceeds Quality Control limits.

Surrogates	%Recovery	Metnod Limits	
1,2-Dichloroethane-d4	129	70-130	
Toluene-d8	90	70-130	
4-Bromofluorobenzene	102	70-130	



Client Sample ID: LCS Lab ID#: 1505180-09D

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051303sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/13/15 08:23 AM

		Method
Compound	%Recovery	Limits
Vinyl Chloride	79	70-130
1,1-Dichloroethene	75	70-130
1,1-Dichloroethane	89	70-130
cis-1,2-Dichloroethene	95	70-130
1,1,1-Trichloroethane	112	70-130
Benzene	74	70-130
1,2-Dichloroethane	118	70-130
Trichloroethene	86	70-130
Toluene	84	70-130
1,1,2-Trichloroethane	83	70-130
Tetrachloroethene	93	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	106	70-130
o-Xylene	109	70-130
1,1,2,2-Tetrachloroethane	74	70-130
trans-1,2-Dichloroethene	77	70-130
Methyl tert-butyl ether	90	70-130

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	126	70-130	
Toluene-d8	94	70-130	
4-Bromofluorobenzene	100	70-130	



Client Sample ID: LCSD Lab ID#: 1505180-09DD

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: e051304sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/13/15 09:07 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	78	70-130
1,1-Dichloroethene	74	70-130
1,1-Dichloroethane	89	70-130
cis-1,2-Dichloroethene	94	70-130
1,1,1-Trichloroethane	112	70-130
Benzene	73	70-130
1,2-Dichloroethane	117	70-130
Trichloroethene	85	70-130
Toluene	83	70-130
1,1,2-Trichloroethane	82	70-130
Tetrachloroethene	93	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	105	70-130
o-Xylene	109	70-130
1,1,2,2-Tetrachloroethane	74	70-130
trans-1,2-Dichloroethene	77	70-130
Methyl tert-butyl ether	90	70-130

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	127	70-130	
Toluene-d8	94	70-130	
4-Bromofluorobenzene	100	70-130	



Client Sample ID: LCS Lab ID#: 1505180-09E

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: 20051403 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/14/15 10:21 AM

		Method
Compound	%Recovery	Limits
Freon 12	107	70-130
Freon 114	108	70-130
Chloromethane	99	70-130
1,3-Butadiene	100	70-130
Bromomethane	111	70-130
Chloroethane	105	70-130
Freon 11	107	70-130
Ethanol	110	70-130
Freon 113	98	70-130
Acetone	98	70-130
2-Propanol	108	70-130
Carbon Disulfide	93	70-130
3-Chloropropene	105	70-130
Methylene Chloride	99	70-130
Hexane	107	70-130
2-Butanone (Methyl Ethyl Ketone)	103	70-130
Tetrahydrofuran	104	70-130
Chloroform	102	70-130
Cyclohexane	105	70-130
Carbon Tetrachloride	140 Q	70-130
2,2,4-Trimethylpentane	104	70-130
Heptane	108	70-130
1,2-Dichloropropane	105	70-130
1,4-Dioxane	114	70-130
Bromodichloromethane	112	70-130
cis-1,3-Dichloropropene	100	70-130
4-Methyl-2-pentanone	115	70-130
trans-1,3-Dichloropropene	107	70-130
2-Hexanone	117	70-130
Dibromochloromethane	116	70-130
1,2-Dibromoethane (EDB)	111	70-130
Chlorobenzene	105	70-130
Styrene	116	70-130
Bromoform	118	70-130
Cumene	112	70-130
Propylbenzene	108	70-130
4-Ethyltoluene	105	70-130
1,3,5-Trimethylbenzene	106	70-130
1,2,4-Trimethylbenzene	102	70-130
1,3-Dichlorobenzene	101	70-130
1,4-Dichlorobenzene	99	70-130
alpha-Chlorotoluene	117	70-130



Client Sample ID: LCS Lab ID#: 1505180-09E

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20051403	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/14/15 10:21 AM

Compound	%Recovery	Method Limits
1,2-Dichlorobenzene	100	70-130
1,2,4-Trichlorobenzene	84	70-130
Hexachlorobutadiene	88	70-130

Q = Exceeds Quality Control limits.

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	104	70-130



Client Sample ID: LCSD Lab ID#: 1505180-09EE

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: 20051404 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/14/15 11:13 AM

		Method
Compound	%Recovery	Limits
Freon 12	104	70-130
Freon 114	105	70-130
Chloromethane	97	70-130
1,3-Butadiene	97	70-130
Bromomethane	112	70-130
Chloroethane	102	70-130
Freon 11	104	70-130
Ethanol	103	70-130
Freon 113	96	70-130
Acetone	96	70-130
2-Propanol	119	70-130
Carbon Disulfide	90	70-130
3-Chloropropene	101	70-130
Methylene Chloride	96	70-130
Hexane	105	70-130
2-Butanone (Methyl Ethyl Ketone)	100	70-130
Tetrahydrofuran	100	70-130
Chloroform	99	70-130
Cyclohexane	101	70-130
Carbon Tetrachloride	135 Q	70-130
2,2,4-Trimethylpentane	102	70-130
Heptane	105	70-130
1,2-Dichloropropane	102	70-130
1,4-Dioxane	111	70-130
Bromodichloromethane	109	70-130
cis-1,3-Dichloropropene	99	70-130
4-Methyl-2-pentanone	112	70-130
trans-1,3-Dichloropropene	105	70-130
2-Hexanone	112	70-130
Dibromochloromethane	112	70-130
1,2-Dibromoethane (EDB)	108	70-130
Chlorobenzene	101	70-130
Styrene	109	70-130
Bromoform	114	70-130
Cumene	106	70-130
Propylbenzene	103	70-130
4-Ethyltoluene	99	70-130
1,3,5-Trimethylbenzene	100	70-130
1,2,4-Trimethylbenzene	97	70-130
1,3-Dichlorobenzene	97	70-130
1,4-Dichlorobenzene	95	70-130
alpha-Chlorotoluene	111	70-130



Client Sample ID: LCSD Lab ID#: 1505180-09EE

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name:	20051404	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/14/15 11:13 AM

Compound	%Recovery	Method Limits
1,2-Dichlorobenzene	95	70-130
1,2,4-Trichlorobenzene	95	70-130
Hexachlorobutadiene	100	70-130

Q = Exceeds Quality Control limits.

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	97	70-130	
Toluene-d8	101	70-130	
4-Bromofluorobenzene	102	70-130	



Client Sample ID: LCS Lab ID#: 1505180-09F

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: 20051403sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/14/15 10:21 AM

		Method
Compound	%Recovery	Limits
Vinyl Chloride	100	70-130
1,1-Dichloroethene	100	70-130
1,1-Dichloroethane	100	70-130
cis-1,2-Dichloroethene	112	70-130
1,1,1-Trichloroethane	102	70-130
Benzene	95	70-130
1,2-Dichloroethane	93	70-130
Trichloroethene	97	70-130
Toluene	104	70-130
1,1,2-Trichloroethane	103	70-130
Tetrachloroethene	98	70-130
Ethyl Benzene	108	70-130
m,p-Xylene	113	70-130
o-Xylene	112	70-130
1,1,2,2-Tetrachloroethane	102	70-130
trans-1,2-Dichloroethene	87	70-130
Methyl tert-butyl ether	105	70-130

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	97	70-130	
Toluene-d8	103	70-130	
4-Bromofluorobenzene	105	70-130	



Client Sample ID: LCSD Lab ID#: 1505180-09FF

MODIFIED EPA METHOD TO-15 GC/MS SIM/FULL SCAN

File Name: 20051404sim Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/14/15 11:13 AM

		Method
Compound	%Recovery	Limits
Vinyl Chloride	98	70-130
1,1-Dichloroethene	98	70-130
1,1-Dichloroethane	97	70-130
cis-1,2-Dichloroethene	109	70-130
1,1,1-Trichloroethane	100	70-130
Benzene	93	70-130
1,2-Dichloroethane	91	70-130
Trichloroethene	95	70-130
Toluene	103	70-130
1,1,2-Trichloroethane	101	70-130
Tetrachloroethene	96	70-130
Ethyl Benzene	106	70-130
m,p-Xylene	108	70-130
o-Xylene	108	70-130
1,1,2,2-Tetrachloroethane	99	70-130
trans-1,2-Dichloroethene	85	70-130
Methyl tert-butyl ether	102	70-130

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	96	70-130	
Toluene-d8	103	70-130	
4-Bromofluorobenzene	104	70-130	



Client Sample ID: LCS Lab ID#: 1505180-09G

EPA METHOD TO-15 GC/MS

File Name: 14052003 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/20/15 09:06 AM

		Method
Compound	%Recovery	Limits
Freon 12	101	70-130
Freon 114	106	70-130
Chloromethane	111	70-130
Vinyl Chloride	118	70-130
1,3-Butadiene	112	70-130
Bromomethane	95	70-130
Chloroethane	104	70-130
Freon 11	97	70-130
Ethanol	96	70-130
Freon 113	103	70-130
1,1-Dichloroethene	105	70-130
Acetone	116	70-130
2-Propanol	110	70-130
Carbon Disulfide	98	70-130
3-Chloropropene	99	70-130
Methylene Chloride	108	70-130
Methyl tert-butyl ether	129	70-130
trans-1,2-Dichloroethene	93	70-130
Hexane	112	70-130
1,1-Dichloroethane	110	70-130
2-Butanone (Methyl Ethyl Ketone)	109	70-130
cis-1,2-Dichloroethene	112	70-130
Tetrahydrofuran	107	70-130
Chloroform	99	70-130
1,1,1-Trichloroethane	97	70-130
Cyclohexane	107	70-130
Carbon Tetrachloride	98	70-130
2,2,4-Trimethylpentane	114	70-130
Benzene	109	70-130
1,2-Dichloroethane	91	70-130
Heptane	107	70-130
Trichloroethene	97	70-130
1,2-Dichloropropane	111	70-130
1,4-Dioxane	97	70-130
Bromodichloromethane	98	70-130
cis-1,3-Dichloropropene	98	70-130
4-Methyl-2-pentanone	99	70-130
Toluene	103	70-130
trans-1,3-Dichloropropene	101	70-130
1,1,2-Trichloroethane	105	70-130
Tetrachloroethene	101	70-130
2-Hexanone	110	70-130
1-1 IGAGIIUI I C	110	70-130



Client Sample ID: LCS Lab ID#: 1505180-09G

EPA METHOD TO-15 GC/MS

File Name: 14052003 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/20/15 09:06 AM

		Method
Compound	%Recovery	Limits
Dibromochloromethane	100	70-130
1,2-Dibromoethane (EDB)	104	70-130
Chlorobenzene	100	70-130
Ethyl Benzene	101	70-130
m,p-Xylene	104	70-130
o-Xylene	103	70-130
Styrene	111	70-130
Bromoform	100	70-130
Cumene	102	70-130
1,1,2,2-Tetrachloroethane	118	70-130
Propylbenzene	110	70-130
4-Ethyltoluene	106	70-130
1,3,5-Trimethylbenzene	108	70-130
1,2,4-Trimethylbenzene	104	70-130
1,3-Dichlorobenzene	99	70-130
1,4-Dichlorobenzene	101	70-130
alpha-Chlorotoluene	108	70-130
1,2-Dichlorobenzene	100	70-130
1,2,4-Trichlorobenzene	92	70-130
Hexachlorobutadiene	98	70-130

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130



Client Sample ID: LCSD Lab ID#: 1505180-09GG

EPA METHOD TO-15 GC/MS

File Name: 14052004 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/20/15 09:25 AM

		Method
Compound	%Recovery	Limits
Freon 12	103	70-130
Freon 114	107	70-130
Chloromethane	114	70-130
Vinyl Chloride	118	70-130
1,3-Butadiene	112	70-130
Bromomethane	99	70-130
Chloroethane	109	70-130
Freon 11	99	70-130
Ethanol	100	70-130
Freon 113	106	70-130
1,1-Dichloroethene	106	70-130
Acetone	120	70-130
2-Propanol	115	70-130
Carbon Disulfide	101	70-130
3-Chloropropene	101	70-130
Methylene Chloride	109	70-130
Methyl tert-butyl ether	132 Q	70-130
trans-1,2-Dichloroethene	95	70-130
Hexane	114	70-130
1,1-Dichloroethane	111	70-130
2-Butanone (Methyl Ethyl Ketone)	114	70-130
cis-1,2-Dichloroethene	115	70-130
Tetrahydrofuran	113	70-130
Chloroform	100	70-130
1,1,1-Trichloroethane	97	70-130
Cyclohexane	108	70-130
Carbon Tetrachloride	100	70-130
2,2,4-Trimethylpentane	116	70-130
Benzene	111	70-130
1,2-Dichloroethane	92	70-130
Heptane	109	70-130
Trichloroethene	97	70-130
1,2-Dichloropropane	113	70-130
1,4-Dioxane	103	70-130
Bromodichloromethane	100	70-130
cis-1,3-Dichloropropene	99	70-130
4-Methyl-2-pentanone	96	70-130
Toluene	104	70-130
trans-1,3-Dichloropropene	101	70-130
1,1,2-Trichloroethane	104	70-130
Tetrachloroethene	98	70-130
2-Hexanone	110	70-130



Client Sample ID: LCSD Lab ID#: 1505180-09GG

EPA METHOD TO-15 GC/MS

File Name: 14052004 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/20/15 09:25 AM

		Method
Compound	%Recovery	Limits
Dibromochloromethane	98	70-130
1,2-Dibromoethane (EDB)	102	70-130
Chlorobenzene	100	70-130
Ethyl Benzene	99	70-130
m,p-Xylene	102	70-130
o-Xylene	103	70-130
Styrene	112	70-130
Bromoform	101	70-130
Cumene	101	70-130
1,1,2,2-Tetrachloroethane	117	70-130
Propylbenzene	108	70-130
4-Ethyltoluene	104	70-130
1,3,5-Trimethylbenzene	114	70-130
1,2,4-Trimethylbenzene	104	70-130
1,3-Dichlorobenzene	100	70-130
1,4-Dichlorobenzene	100	70-130
alpha-Chlorotoluene	109	70-130
1,2-Dichlorobenzene	100	70-130
1,2,4-Trichlorobenzene	96	70-130
Hexachlorobutadiene	104	70-130

Q = Exceeds Quality Control limits.

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	95	70-130



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Seattle 5755 8th Street East Tacoma, WA 98424 Tel: (253)922-2310

TestAmerica Job ID: 580-50674-1

Client Project/Site: Former Crown Cork and Seal Facility

For:

URS Corporation 111 SW Columbia Suite 1500 Portland, Oregon 97201-5814

Attn: Mr. Stephen Roberts

Authorized for release by:

Authorized for release by 6/26/2015 10:51:15 AM

Sarah Murphy, Project Manager I (253)922-2310

sarah.murphy@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: URS Corporation

Project/Site: Former Crown Cork and Seal Facility

Job ID: 580-50674-1

Laboratory: TestAmerica Seattle

Narrative

Job Narrative 580-50674-1

Receipt

The samples were received on 6/10/2015 1:35 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

GC/MS VOA

Method(s) 8260C: The minimum response factor (RF) criteria for the continuing calibration verification (CCV) analyzed in batch 580-192769 was outside criteria for the following analyte(s): Acetone and 2-Butanone (MEK). As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered estimated.

Method(s) 8260C: The method blank for preparation batch 580-192762 and analytical batch 580-192769 contained Methylene Chloride. 1,2,3-Trichlorobenzene, Toluene and Naphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8260C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 580-192762 and analytical batch 580-192769 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8260C: The following samples were reanalyzed due to a potentially high bias of tetrachloroethene during the initial analysis. Results are reported from the reanalysis for tetrachloroethene: OF-4 (580-50674-1) and OF-3 (580-50674-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: The method blank for preparation batch 580-192194 and analytical batch 580-192701 contained Butylbenzyl phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not warranted.

Method(s) 8270D: The following samples were diluted due to the nature of the sample matrix: OF-4 (580-50674-1) and OF-3 (580-50674-2). Elevated reporting limits (RLs) are provided.

Method(s) 8270C SIM: Internal standard (ISTD) response for the following sample was outside control limits: OF-4 (580-50674-1). The sample was re-analyzed with concurring results, and the original set of data has been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) NWTPH-Dx: In analytical batch 580-193043, the following samples from preparation batch 580-192811 contained a hydrocarbon pattern in the diesel range; however, the elution pattern was later than the typical diesel fuel pattern used by the laboratory for quantitative purposes: OF-4 (580-50674-1) and OF-3 (580-50674-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

TestAmerica Job ID: 580-50674-1

Definitions/Glossary

Client: URS Corporation TestAmerica Job ID: 580-50674-1

Project/Site: Former Crown Cork and Seal Facility

Qualifiers

GC/MS VOA

Qualifier	Quali	ner Des	cripu	OII		
_					 	

В Compound was found in the blank and sample.

Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier **Qualifier Description**

Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

ISTD response or retention time outside acceptable limits

В Compound was found in the blank and sample.

GC VOA

Qualifier **Qualifier Description**

Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier **Qualifier Description**

The chromatographic response resembles a typical fuel pattern.

Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier **Qualifier Description**

F3 Duplicate RPD exceeds the control limit

MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not

applicable.

Glossary

Abbreviation	These commonly	used abbreviations may	or may	not be	present in this report
ADDIGNICALION	THESE COMMISSION	, useu abbievialions may	OI IIIQY	1101 00	present in tins report.

Listed under the "D" column to designate that the result is reported on a dry weight basis ¤

%R Percent Recovery CFL Contains Free Liquid **CNF** Contains no Free Liquid

DER Duplicate error ratio (normalized absolute difference)

Dil Fac

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision level concentration MDA Minimum detectable activity **EDL Estimated Detection Limit**

MDC Minimum detectable concentration

MDL Method Detection Limit Minimum Level (Dioxin) ML

NC Not Calculated

ND Not detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

QC **Quality Control RER** Relative error ratio

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

Toxicity Equivalent Factor (Dioxin) TEF **TEQ** Toxicity Equivalent Quotient (Dioxin)

TestAmerica Seattle

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6/26/2015

Client: URS Corporation TestAmerica Job ID: 580-50674-1

Project/Site: Former Crown Cork and Seal Facility

Client Sample ID: OF-4 Lab Sample ID: 580-50674-1 Date Collected: 06/10/15 09:00

Matrix: Solid

Date Received: 06/10/15 13:35

General Chemistry Analyte	Result Quali	ifier RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	97	0.10	0.10	%			06/14/15 15:39	1
Percent Moisture	3.5	0.10	0.10	%			06/14/15 15:39	1

Client: URS Corporation TestAmerica Job ID: 580-50674-1

Project/Site: Former Crown Cork and Seal Facility

Client Sample ID: OF-4

Date Collected: 06/10/15 09:00

Lab Sample ID: 580-50674-1

Matrix: Solid

 Date Collected: 06/10/15 09:00
 Matrix: Solid

 Date Received: 06/10/15 13:35
 Percent Solids: 96.5

Method: 8260C - Volatile Org Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fa
1,1,1,2-Tetrachloroethane	ND		0.042		mg/Kg	**	06/21/15 09:09	06/21/15 20:30	
1,1,1-Trichloroethane	ND		0.042	0.0059	0 0	₽	06/21/15 09:09	06/21/15 20:30	
1,1,2,2-Tetrachloroethane	ND		0.011	0.0024			06/21/15 09:09	06/21/15 20:30	
1,1,2-Trichloroethane	ND		0.013	0.0030	0 0	☼	06/21/15 09:09	06/21/15 20:30	
1,1-Dichloroethane	ND		0.042	0.0045		☼	06/21/15 09:09	06/21/15 20:30	
1,1-Dichloroethene	0.041		0.021	0.0052		₩	06/21/15 09:09	06/21/15 20:30	
1,1-Dichloropropene	ND		0.042	0.0056		☼			
1,2,3-Trichlorobenzene	0.0070	JB	0.042	0.0033	mg/Kg	₩	06/21/15 09:09	06/21/15 20:30	
1,2,3-Trichloropropane	ND		0.042	0.012	mg/Kg	₩	06/21/15 09:09	06/21/15 20:30	
1,2,4-Trichlorobenzene	0.0049	J	0.042	0.0041	mg/Kg	₽	06/21/15 09:09	06/21/15 20:30	
1,2,4-Trimethylbenzene	0.0092	J	0.042	0.0025	0 0	₩	06/21/15 09:09	06/21/15 20:30	
1,2-Dibromo-3-Chloropropane	ND		0.21	0.0028	mg/Kg	₩	06/21/15 09:09	06/21/15 20:30	
1,2-Dibromoethane	ND		0.017	0.0036	mg/Kg	₽	06/21/15 09:09	06/21/15 20:30	
1,2-Dichlorobenzene	ND		0.042	0.013	mg/Kg	₩	06/21/15 09:09	06/21/15 20:30	
1,2-Dichloroethane	ND		0.017	0.0035	mg/Kg	₩	06/21/15 09:09	06/21/15 20:30	
1,2-Dichloropropane	ND		0.013	0.0025	mg/Kg	₩	06/21/15 09:09	06/21/15 20:30	
1,3,5-Trimethylbenzene	0.015	J	0.042	0.0031	mg/Kg	₩	06/21/15 09:09	06/21/15 20:30	
1,3-Dichlorobenzene	ND		0.064	0.011	mg/Kg	₩	06/21/15 09:09	06/21/15 20:30	
1,3-Dichloropropane	ND		0.042	0.0058	mg/Kg	₽	06/21/15 09:09	06/21/15 20:30	
1,4-Dichlorobenzene	ND		0.064	0.011	mg/Kg	₩	06/21/15 09:09	06/21/15 20:30	
2,2-Dichloropropane	ND		0.042	0.0051	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	
2-Butanone (MEK)	ND		0.42	0.055	mg/Kg	φ.	06/21/15 09:09	06/21/15 20:30	
2-Chlorotoluene	ND		0.042	0.0036	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	
2-Hexanone	ND		0.21	0.038	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	
4-Chlorotoluene	ND		0.042	0.0032	mg/Kg	₽	06/21/15 09:09	06/21/15 20:30	
4-Methyl-2-pentanone (MIBK)	ND		0.21	0.031	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	
Acetone	0.92		0.85	0.18	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	
Benzene	ND		0.017	0.0037	mg/Kg	₩	06/21/15 09:09	06/21/15 20:30	
Bromobenzene	ND		0.042	0.0025	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	
Bromochloromethane	ND		0.042	0.0049	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	
Bromodichloromethane	ND		0.042	0.0015	mg/Kg	₩	06/21/15 09:09	06/21/15 20:30	
Bromoform	ND		0.042	0.0069	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	
Bromomethane	ND		0.15	0.014	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	
Carbon disulfide	ND		0.042	0.0047	mg/Kg		06/21/15 09:09	06/21/15 20:30	
Carbon tetrachloride	ND		0.021	0.0040	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	
Chlorobenzene	ND		0.042	0.010	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	
Chloroethane	ND		0.42		mg/Kg	.	06/21/15 09:09	06/21/15 20:30	
Chloroform	ND		0.042	0.0045	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	
Chloromethane	ND		0.11	0.011	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	
cis-1,2-Dichloroethene	ND		0.042	0.0052	mg/Kg	φ.	06/21/15 09:09	06/21/15 20:30	
cis-1,3-Dichloropropene	ND		0.017	0.0019	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	
Dibromochloromethane	ND		0.021	0.0030	mg/Kg	₩	06/21/15 09:09	06/21/15 20:30	
Dibromomethane	ND		0.064		mg/Kg		06/21/15 09:09	06/21/15 20:30	
Dichlorodifluoromethane	ND		0.042	0.0069		☼		06/21/15 20:30	
Ethylbenzene	0.0051	J	0.042	0.0021		☆		06/21/15 20:30	
Hexachlorobutadiene	ND		0.085		mg/Kg		06/21/15 09:09	06/21/15 20:30	
Isopropylbenzene	ND		0.042	0.0028		☆		06/21/15 20:30	
m,p-Xylene	0.018	J	0.042	0.0032		☼		06/21/15 20:30	
Methyl tert-butyl ether	ND		0.042	0.0064				06/21/15 20:30	

TestAmerica Seattle

6/26/2015

TestAmerica Job ID: 580-50674-1

Client Sample ID: OF-4

Date Collected: 06/10/15 09:00

Lab Sample ID: 580-50674-1

Matrix: Solid

Date Received: 06/10/15 13:35 Percent Solids: 96.5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	0.017	JB	0.027	0.012	mg/Kg	<u> </u>	06/21/15 09:09	06/21/15 20:30	1
Naphthalene	0.029	JB	0.042	0.0037	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	1
n-Butylbenzene	0.0049	J	0.042	0.0037	mg/Kg	₽	06/21/15 09:09	06/21/15 20:30	1
N-Propylbenzene	0.0043	J	0.042	0.0028	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	1
o-Xylene	0.019	J	0.042	0.0032	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	1
p-Isopropyltoluene	0.13		0.042	0.0030	mg/Kg	₽	06/21/15 09:09	06/21/15 20:30	1
sec-Butylbenzene	ND		0.042	0.0030	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	1
Styrene	0.0045	J	0.042	0.0025	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	1
tert-Butylbenzene	0.0043	J	0.042	0.0033	mg/Kg	₽	06/21/15 09:09	06/21/15 20:30	1
Toluene	0.0073	JB	0.042	0.0028	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	1
trans-1,2-Dichloroethene	ND		0.042	0.0040	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	1
trans-1,3-Dichloropropene	ND		0.042	0.0074	mg/Kg	₽	06/21/15 09:09	06/21/15 20:30	1
Trichloroethene	ND		0.025	0.0033	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	1
Trichlorofluoromethane	0.024	J	0.042	0.0063	mg/Kg	☼	06/21/15 09:09	06/21/15 20:30	1
Vinyl chloride	ND		0.017	0.0075	mg/Kg	₽	06/21/15 09:09	06/21/15 20:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac	С
1,2-Dichloroethane-d4 (Surr)	97		71 - 136	06/21/15 09:09	06/21/15 20:30		Ī
4-Bromofluorobenzene (Surr)	99		70 - 120	06/21/15 09:09	06/21/15 20:30	1	1
Dibromofluoromethane (Surr)	97		75 - 132	06/21/15 09:09	06/21/15 20:30	1	1
Toluene-d8 (Surr)	101		80 - 120	06/21/15 09:09	06/21/15 20:30	1	1

Method: 8260C - Volatile Organic Compounds by GC/MS - RA									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		0.021	0.0056	mg/Kg	\	06/21/15 09:09	06/22/15 03:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		71 - 136				06/21/15 09:09	06/22/15 03:26	1
4-Bromofluorobenzene (Surr)	91		70 - 120				06/21/15 09:09	06/22/15 03:26	1
Dibromofluoromethane (Surr)	88		75 ₋ 132				06/21/15 09:09	06/22/15 03:26	1
Toluene-d8 (Surr)	106		80 - 120				06/21/15 09:09	06/22/15 03:26	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.075	J	0.10	0.020	mg/Kg	<u> </u>	06/15/15 17:25	06/19/15 19:27	10
2-Methylnaphthalene	0.037	J	0.050	0.012	mg/Kg	₩	06/15/15 17:25	06/19/15 19:27	10
1-Methylnaphthalene	0.079	J	0.10	0.015	mg/Kg	₩	06/15/15 17:25	06/19/15 19:27	10
Acenaphthylene	0.013	J	0.050	0.0049	mg/Kg	ф	06/15/15 17:25	06/19/15 19:27	10
Acenaphthene	0.20		0.050	0.0078	mg/Kg	₩	06/15/15 17:25	06/19/15 19:27	10
Fluorene	0.15		0.050	0.0063	mg/Kg	₩	06/15/15 17:25	06/19/15 19:27	10
Phenanthrene	1.7		0.10	0.015	mg/Kg	φ.	06/15/15 17:25	06/19/15 19:27	10
Anthracene	0.69		0.050	0.0075	mg/Kg	₩	06/15/15 17:25	06/19/15 19:27	10
Fluoranthene	4.5		0.050	0.0088	mg/Kg	₩	06/15/15 17:25	06/19/15 19:27	10
Pyrene	3.9		0.10	0.015	mg/Kg	₩.	06/15/15 17:25	06/19/15 19:27	10
Benzo[a]anthracene	1.9		0.10	0.015	mg/Kg	₩	06/15/15 17:25	06/19/15 19:27	10
Chrysene	2.5		0.050	0.0090	mg/Kg	₩	06/15/15 17:25	06/19/15 19:27	10
Benzo[b]fluoranthene	3.3	*	0.10	0.015	mg/Kg	₩.	06/15/15 17:25	06/19/15 19:27	10
Benzo[k]fluoranthene	1.3	*	0.10	0.015	mg/Kg	₩	06/15/15 17:25	06/19/15 19:27	10
Benzo[a]pyrene	2.3	*	0.050	0.0094	mg/Kg	☼	06/15/15 17:25	06/19/15 19:27	10
Indeno[1,2,3-cd]pyrene	0.98	*	0.050	0.0093	mg/Kg		06/15/15 17:25	06/19/15 19:27	10

TestAmerica Seattle

TestAmerica Job ID: 580-50674-1

Project/Site: Former Crown Cork and Seal Facility

Client Sample ID: OF-4 Lab Sample ID: 580-50674-1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	0.21	*	0.050	0.0091	mg/Kg	<u> </u>	06/15/15 17:25	06/19/15 19:27	10
Benzo[g,h,i]perylene	0.73	*	0.10	0.015	mg/Kg	₩	06/15/15 17:25	06/19/15 19:27	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	98		42 - 151				06/15/15 17:25	06/19/15 19:27	10
Method: 8270D - Semivolatile	Organic Co	mpounds	(GC/MS)						
Analyte		Qualifier	ŘL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	0.76	\overline{J}	6.0	0.50	mg/Kg	<u> </u>	06/15/15 17:25	06/19/15 21:29	10
Butyl benzyl phthalate	ND		2.0	0.50	mg/Kg	₩	06/15/15 17:25	06/19/15 21:29	10
Diethyl phthalate	ND		2.0	0.15	mg/Kg	₩	06/15/15 17:25	06/19/15 21:29	10
Dimethyl phthalate	ND		1.0	0.050	mg/Kg		06/15/15 17:25	06/19/15 21:29	10
Di-n-butyl phthalate	ND		5.0	0.50	mg/Kg	₩	06/15/15 17:25	06/19/15 21:29	10
Di-n-octyl phthalate	ND		5.0	0.050	mg/Kg	₩	06/15/15 17:25	06/19/15 21:29	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	84		28 - 143				06/15/15 17:25	06/19/15 21:29	10
2-Fluorobiphenyl	80		42 - 140				06/15/15 17:25	06/19/15 21:29	10
2-Fluorophenol (Surr)	84		36 - 145				06/15/15 17:25	06/19/15 21:29	10
Nitrobenzene-d5 (Surr)	84		38 - 141				06/15/15 17:25	06/19/15 21:29	10
Phenol-d5 (Surr)	88		38 - 149				06/15/15 17:25	06/19/15 21:29	10
Terphenyl-d14 (Surr)	111		42 - 151				06/15/15 17:25	06/19/15 21:29	10
Method: NWTPH-Gx - Northw	est - Volatile	e Petroleur	m Products	(GC)					
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	1.4	J	4.1	0.51	mg/Kg	-	06/16/15 15:06	06/16/15 16:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		50 - 150				06/16/15 15:06	06/16/15 16:58	1
Trifluorotoluene (Surr)	102		50 ₋ 150				06/16/15 15:06	06/16/15 16:58	1

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
PCB-1016	0.048		0.010	0.00051	mg/Kg	<u> </u>	06/19/15 08:37	06/23/15 01:09	1	
PCB-1221	ND		0.011	0.0034	mg/Kg	₩	06/19/15 08:37	06/23/15 01:09	1	
PCB-1232	ND		0.011	0.0022	mg/Kg	₽	06/19/15 08:37	06/23/15 01:09	1	
PCB-1242	ND		0.010	0.0021	mg/Kg	₩	06/19/15 08:37	06/23/15 01:09	1	
PCB-1248	ND		0.011	0.0016	mg/Kg	₽	06/19/15 08:37	06/23/15 01:09	1	
PCB-1254	0.096		0.010	0.00091	mg/Kg	₽	06/19/15 08:37	06/23/15 01:09	1	
PCB-1260	ND		0.010	0.0013	mg/Kg	₩	06/19/15 08:37	06/23/15 01:09	1	
Surrogato	%Recovery	Qualifier	l imite				Propared	Analyzod	Dil Fac	

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	90		45 - 135	06/19/15 08:37	06/23/15 01:09	1
DCB Decachlorobiphenyl	93		50 - 140	06/19/15 08:37	06/23/15 01:09	1

Method: NWTPH-Dx - No	rthwest - Semi-V	olatile Pet	roleum Prod	ucts (G0	C)				
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	380	<u>Y</u>	250	36	mg/Kg	<u>₩</u>	06/22/15 09:21	06/24/15 07:09	10
Motor Oil (>C24-C36)	2600	Y	500	92	mg/Kg	₩	06/22/15 09:21	06/24/15 07:09	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	106		50 - 150				06/22/15 09:21	06/24/15 07:09	10

TestAmerica Seattle

Client: URS Corporation

Project/Site: Former Crown Cork and Seal Facility

TestAmerica Job ID: 580-50674-1

Method: 6020 - Metals (IC	CP/MS)							
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.5	0.48	0.17	mg/Kg	<u> </u>	06/16/15 07:49	06/16/15 18:34	10
Barium	89	0.48	0.074	mg/Kg	≎	06/16/15 07:49	06/16/15 18:34	10
Cadmium	2.1	0.19	0.018	mg/Kg	≎	06/16/15 07:49	06/16/15 18:34	10
Chromium	45	0.48	0.060	mg/Kg	φ.	06/16/15 07:49	06/16/15 18:34	10
Lead	490	0.48	0.046	mg/Kg	≎	06/16/15 07:49	06/16/15 18:34	10
Selenium	1.2	0.95	0.19	mg/Kg	☼	06/16/15 07:49	06/16/15 18:34	10
Silver	0.23	0.19	0.011	mg/Kg	₽	06/16/15 07:49	06/16/15 18:34	10
_ Method: 7471A - Mercury	(CVAA)							
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.080	0.018	0.0055	mg/Kg		06/16/15 09:30	06/16/15 11:31	1

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Client: URS Corporation TestAmerica Job ID: 580-50674-1

Project/Site: Former Crown Cork and Seal Facility

Client Sample ID: OF-3 Lab Sample ID: 580-50674-2 Date Collected: 06/10/15 10:30

Matrix: Solid

Date Received: 06/10/15 13:35

General Chemistry Analyte	Result (Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92		0.10	0.10	%			06/14/15 15:39	1
Percent Moisture	8.4		0.10	0.10	%			06/14/15 15:39	1

Client: URS Corporation TestAmerica Job ID: 580-50674-1

Project/Site: Former Crown Cork and Seal Facility

Client Sample ID: OF-3

Date Collected: 06/10/15 10:30

Lab Sample ID: 580-50674-2

Matrix: Solid

 Date Collected: 06/10/15 10:30
 Matrix: Solid

 Date Received: 06/10/15 13:35
 Percent Solids: 91.6

Method: 8260C - Volatile Orga Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fa
1,1,1,2-Tetrachloroethane	ND		0.049		0 0	*	06/21/15 09:09	06/21/15 21:03	
1,1,1-Trichloroethane	0.091		0.049	0.0068	0 0	☼	06/21/15 09:09	06/21/15 21:03	
1,1,2,2-Tetrachloroethane	ND		0.012	0.0028	mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	
1,1,2-Trichloroethane	ND		0.015	0.0034		₽	06/21/15 09:09	06/21/15 21:03	
1,1-Dichloroethane	ND		0.049	0.0051	mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	
1,1-Dichloroethene	0.033		0.024	0.0060	mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	
1,1-Dichloropropene	ND		0.049	0.0064	mg/Kg	₽	06/21/15 09:09	06/21/15 21:03	
1,2,3-Trichlorobenzene	ND		0.049	0.0038	mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	
1,2,3-Trichloropropane	ND		0.049	0.014	mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	
1,2,4-Trichlorobenzene	ND		0.049	0.0047	mg/Kg	₩.	06/21/15 09:09	06/21/15 21:03	
1,2,4-Trimethylbenzene	1.1		0.049	0.0029	mg/Kg	☼	06/21/15 09:09	06/21/15 21:03	
1,2-Dibromo-3-Chloropropane	ND		0.24	0.0032	mg/Kg	☼	06/21/15 09:09	06/21/15 21:03	
1,2-Dibromoethane	ND		0.019	0.0041	mg/Kg		06/21/15 09:09	06/21/15 21:03	
1,2-Dichlorobenzene	ND		0.049	0.014	mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	
1,2-Dichloroethane	ND		0.019	0.0040	mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	
1,2-Dichloropropane	ND		0.015	0.0029			06/21/15 09:09	06/21/15 21:03	
1,3,5-Trimethylbenzene	0.68		0.049	0.0035	0 0	₩	06/21/15 09:09	06/21/15 21:03	
1,3-Dichlorobenzene	ND		0.073		mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	
1,3-Dichloropropane	ND		0.049	0.0067			06/21/15 09:09		
1,4-Dichlorobenzene	ND		0.073		mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	
2,2-Dichloropropane	ND		0.049	0.0058		₩	06/21/15 09:09		
2-Butanone (MEK)	ND		0.49		mg/Kg		06/21/15 09:09		
2-Chlorotoluene	ND		0.49	0.003	0 0		06/21/15 09:09		
2-Grilorotolderie 2-Hexanone	ND ND		0.049		mg/Kg	**		06/21/15 21:03	
4-Chlorotoluene	ND ND		0.24	0.0036		<u>.</u>		06/21/15 21:03	
						×			
4-Methyl-2-pentanone (MIBK)	0.88		0.24		mg/Kg	₩	06/21/15 09:09		
Acetone	0.32		0.97		mg/Kg		06/21/15 09:09		
Benzene	0.010	J	0.019	0.0043		*	06/21/15 09:09	06/21/15 21:03	
Bromobenzene	ND		0.049	0.0029	0 0	φ.	06/21/15 09:09	06/21/15 21:03	
Bromochloromethane	ND		0.049	0.0056		127	06/21/15 09:09	06/21/15 21:03	
Bromodichloromethane	ND		0.049	0.0017		-Ω:	06/21/15 09:09	06/21/15 21:03	
Bromoform	ND		0.049	0.0079		₩.	06/21/15 09:09	06/21/15 21:03	
Bromomethane	ND		0.17		mg/Kg	p	06/21/15 09:09		
Carbon disulfide	ND		0.049	0.0053		₽		06/21/15 21:03	
Carbon tetrachloride	ND		0.024	0.0046	0 0	☼		06/21/15 21:03	
Chlorobenzene	ND		0.049		mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	
Chloroethane	ND		0.49		mg/Kg	₽	06/21/15 09:09	06/21/15 21:03	
Chloroform	ND		0.049	0.0051	mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	
Chloromethane	ND		0.12	0.012	mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	
cis-1,2-Dichloroethene	ND		0.049	0.0060	mg/Kg	₽	06/21/15 09:09	06/21/15 21:03	
cis-1,3-Dichloropropene	ND		0.019	0.0022	mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	
Dibromochloromethane	ND		0.024	0.0034	mg/Kg	☼	06/21/15 09:09	06/21/15 21:03	
Dibromomethane	ND		0.073	0.016	mg/Kg	₩.	06/21/15 09:09	06/21/15 21:03	
Dichlorodifluoromethane	ND		0.049	0.0079		₩	06/21/15 09:09	06/21/15 21:03	
Ethylbenzene	0.049		0.049	0.0024		₩	06/21/15 09:09	06/21/15 21:03	
Hexachlorobutadiene	ND		0.097		mg/Kg			06/21/15 21:03	
Isopropylbenzene	0.078		0.049	0.0032		₽		06/21/15 21:03	
m,p-Xylene	0.26		0.049	0.0036		☼		06/21/15 21:03	
Methyl tert-butyl ether	ND		0.049	0.0073				06/21/15 21:03	

TestAmerica Seattle

6/26/2015

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Project/Site: Former Crown Cork and Seal Facility

Client Sample ID: OF-3

OF-3 Lab Sample ID: 580-50674-2

Matrix: Solid
Percent Solids: 91.6

Date Collected: 06/10/15 10:30 Date Received: 06/10/15 13:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	0.018	JB	0.030	0.014	mg/Kg	<u> </u>	06/21/15 09:09	06/21/15 21:03	1
Naphthalene	0.063	В	0.049	0.0043	mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	1
n-Butylbenzene	0.083		0.049	0.0043	mg/Kg	₽	06/21/15 09:09	06/21/15 21:03	1
N-Propylbenzene	0.059		0.049	0.0032	mg/Kg	☼	06/21/15 09:09	06/21/15 21:03	1
o-Xylene	0.27		0.049	0.0036	mg/Kg	☼	06/21/15 09:09	06/21/15 21:03	1
p-Isopropyltoluene	0.062		0.049	0.0034	mg/Kg	₩.	06/21/15 09:09	06/21/15 21:03	1
sec-Butylbenzene	0.067		0.049	0.0034	mg/Kg	☼	06/21/15 09:09	06/21/15 21:03	1
Styrene	0.0054	J	0.049	0.0029	mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	1
tert-Butylbenzene	ND		0.049	0.0038	mg/Kg	φ.	06/21/15 09:09	06/21/15 21:03	1
Toluene	0.022	JB	0.049	0.0032	mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	1
trans-1,2-Dichloroethene	ND		0.049	0.0046	mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	1
trans-1,3-Dichloropropene	ND		0.049	0.0085	mg/Kg	φ.	06/21/15 09:09	06/21/15 21:03	1
Trichloroethene	ND		0.029	0.0038	mg/Kg	☼	06/21/15 09:09	06/21/15 21:03	1
Trichlorofluoromethane	0.045	J	0.049	0.0072	mg/Kg	₩	06/21/15 09:09	06/21/15 21:03	1
Vinyl chloride	ND		0.019	0.0086	mg/Kg	₽	06/21/15 09:09	06/21/15 21:03	1
0	0/5	Ovalifian	1.114					A I	D:// E

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		71 - 136	06/21/15 09:09	06/21/15 21:03	1
4-Bromofluorobenzene (Surr)	98		70 - 120	06/21/15 09:09	06/21/15 21:03	1
Dibromofluoromethane (Surr)	97		75 - 132	06/21/15 09:09	06/21/15 21:03	1
Toluene-d8 (Surr)	99		80 - 120	06/21/15 09:09	06/21/15 21:03	1

Method: 8260C - Volatile O	rganic Compo	unds by G	C/MS - RA						
Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	0.0076	J	0.024	0.0064	mg/Kg	\	06/21/15 09:09	06/22/15 03:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		71 - 136				06/21/15 09:09	06/22/15 03:58	1
4-Bromofluorobenzene (Surr)	93		70 - 120				06/21/15 09:09	06/22/15 03:58	1
Dibromofluoromethane (Surr)	90		75 - 132				06/21/15 09:09	06/22/15 03:58	1
Toluene-d8 (Surr)	106		80 - 120				06/21/15 09:09	06/22/15 03:58	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.19		0.11	0.022	mg/Kg	₩	06/15/15 17:25	06/19/15 19:49	10
2-Methylnaphthalene	0.12		0.055	0.013	mg/Kg	₩	06/15/15 17:25	06/19/15 19:49	10
1-Methylnaphthalene	0.12		0.11	0.016	mg/Kg	₩	06/15/15 17:25	06/19/15 19:49	10
Acenaphthylene	0.033	J	0.055	0.0053	mg/Kg	₩	06/15/15 17:25	06/19/15 19:49	10
Acenaphthene	0.27		0.055	0.0084	mg/Kg	☆	06/15/15 17:25	06/19/15 19:49	10
Fluorene	0.18		0.055	0.0069	mg/Kg	₩	06/15/15 17:25	06/19/15 19:49	10
Phenanthrene	2.6		0.11	0.016	mg/Kg	ф.	06/15/15 17:25	06/19/15 19:49	10
Anthracene	0.98		0.055	0.0081	mg/Kg	₩	06/15/15 17:25	06/19/15 19:49	10
Fluoranthene	7.9		0.055	0.0095	mg/Kg	₩	06/15/15 17:25	06/19/15 19:49	10
Pyrene	8.0		0.11	0.016	mg/Kg	₩	06/15/15 17:25	06/19/15 19:49	10
Benzo[a]anthracene	3.5		0.11	0.016	mg/Kg	₩	06/15/15 17:25	06/19/15 19:49	10
Chrysene	5.9		0.055	0.0097	mg/Kg	₩	06/15/15 17:25	06/19/15 19:49	10
Benzo[b]fluoranthene	7.5		0.11	0.016	mg/Kg	₩	06/15/15 17:25	06/19/15 19:49	10
Benzo[k]fluoranthene	2.6		0.11	0.016	mg/Kg	₩	06/15/15 17:25	06/19/15 19:49	10
Benzo[a]pyrene	4.4		0.055	0.010	mg/Kg	₩	06/15/15 17:25	06/19/15 19:49	10
Indeno[1,2,3-cd]pyrene	1.9		0.055	0.010	mg/Kg		06/15/15 17:25	06/19/15 19:49	10

TestAmerica Seattle

Project/Site: Former Crown Cork and Seal Facility

Client Sample ID: OF-3

Date Collected: 06/10/15 10:30 Date Received: 06/10/15 13:35

Lab Sample ID: 580-50674-2

Matrix: Solid
Percent Solids: 91.6

Method: 8270C SIM - Sem	ivolatile Organi	c Compou	nds (GC/MS	SIM) (Co	ontinued)			
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	0.40		0.055	0.0098	mg/Kg	<u></u>	06/15/15 17:25	06/19/15 19:49	10
Benzo[g,h,i]perylene	1.3		0.11	0.016	mg/Kg	☼	06/15/15 17:25	06/19/15 19:49	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	97		42 - 151				06/15/15 17:25	06/19/15 19:49	10
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Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	6.0	J	6.5	0.55	mg/Kg	<u> </u>	06/15/15 17:25	06/19/15 21:55	10
Butyl benzyl phthalate	0.97	JB	2.2	0.55	mg/Kg	₩	06/15/15 17:25	06/19/15 21:55	10
Diethyl phthalate	ND		2.2	0.16	mg/Kg	₩	06/15/15 17:25	06/19/15 21:55	10
Dimethyl phthalate	ND		1.1	0.055	mg/Kg	₩.	06/15/15 17:25	06/19/15 21:55	10
Di-n-butyl phthalate	1.5	J	5.5	0.55	mg/Kg	₩	06/15/15 17:25	06/19/15 21:55	10
Di-n-octyl phthalate	ND		5.5	0.055	mg/Kg	₽	06/15/15 17:25	06/19/15 21:55	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac

Surrogate	%Recovery Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	106	28 - 143	06/15/15 17:25	06/19/15 21:55	10
2-Fluorobiphenyl	96	42 - 140	06/15/15 17:25	06/19/15 21:55	10
2-Fluorophenol (Surr)	95	36 - 145	06/15/15 17:25	06/19/15 21:55	10
Nitrobenzene-d5 (Surr)	111	38 - 141	06/15/15 17:25	06/19/15 21:55	10
Phenol-d5 (Surr)	101	38 - 149	06/15/15 17:25	06/19/15 21:55	10
Terphenyl-d14 (Surr)	122	42 - 151	06/15/15 17:25	06/19/15 21:55	10

Method: NWTPH-Gx - Nort	hwest - Volatile	e Petroleui	m Products (GC)					
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	15		4.5	0.56	mg/Kg	<u>∓</u>	06/16/15 15:06	06/16/15 17:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		50 - 150				06/16/15 15:06	06/16/15 17:31	1
Trifluorotoluene (Surr)	101		50 - 150				06/16/15 15:06	06/16/15 17:31	1

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.28	0.011	0.00054	mg/Kg	<u> </u>	06/19/15 08:37	06/23/15 01:26	1
PCB-1221	ND	0.012	0.0037	mg/Kg	☼	06/19/15 08:37	06/23/15 01:26	1
PCB-1232	ND	0.012	0.0024	mg/Kg	☼	06/19/15 08:37	06/23/15 01:26	1
PCB-1242	ND	0.011	0.0023	mg/Kg	₽	06/19/15 08:37	06/23/15 01:26	1
PCB-1248	ND	0.012	0.0017	mg/Kg	☼	06/19/15 08:37	06/23/15 01:26	1
PCB-1254	0.43	0.011	0.00097	mg/Kg	☼	06/19/15 08:37	06/23/15 01:26	1
PCB-1260	ND	0.011	0.0014	mg/Kg	φ.	06/19/15 08:37	06/23/15 01:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	89		45 - 135	06/19/15 08:37	06/23/15 01:26	1
DCB Decachlorobiphenyl	104		50 - 140	06/19/15 08:37	06/23/15 01:26	1

_ Method: NWTPH-Dx - No	rthwest - Semi-V	olatile Pet	roleum Prod	ucte (G(2)				
Analyte		Qualifier	RL	•	Unit	D	Prepared	Analyzed	Dil Fac
#2 Diesel (C10-C24)	1500	Y	1400	200	mg/Kg	<u>₩</u>	06/22/15 09:21	06/24/15 07:25	50
Motor Oil (>C24-C36)	12000	Y	2700	490	mg/Kg	₩	06/22/15 09:21	06/24/15 07:25	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
o-Terphenyl	100	·	50 - 150				06/22/15 09:21	06/24/15 07:25	50

TestAmerica Seattle

Client Sample Results

Client: URS Corporation

Project/Site: Former Crown Cork and Seal Facility

TestAmerica Job ID: 580-50674-1

Method: 6020 - Metals (ICP/N Analyte	IS) Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14	0.52	0.19	mg/Kg	<u></u>	06/16/15 07:49	06/16/15 18:41	10
Barium	130	0.52	0.080	mg/Kg	₩	06/16/15 07:49	06/16/15 18:41	10
Cadmium	ND	0.21	0.020	mg/Kg	☼	06/16/15 07:49	06/16/15 18:41	10
Chromium	120	0.52	0.065	mg/Kg		06/16/15 07:49	06/16/15 18:41	10
Lead	8900	52	5.0	mg/Kg	☼	06/16/15 07:49	06/17/15 12:56	1000
Selenium	1.0	1.0	0.21	mg/Kg	☼	06/16/15 07:49	06/16/15 18:41	10
Silver	1.9	0.21	0.012	mg/Kg	\$	06/16/15 07:49	06/16/15 18:41	10
_ Method: 7471A - Mercury (C\	/AA)							
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	1.4	0.20	0.061	mg/Kg	<u> </u>	06/16/15 09:30	06/16/15 12:04	10

Client Sample Results

Client: URS Corporation TestAmerica Job ID: 580-50674-1

Project/Site: Former Crown Cork and Seal Facility

Client Sample ID: OF2-OCB Lab Sample ID: 580-50674-3

Date Collected: 06/10/15 11:30 Matrix: Solid

Date Received: 06/10/15 13:35

General Chemistry									
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90		0.10	0.10	%			06/14/15 15:39	1
Percent Moisture	10		0.10	0.10	%			06/14/15 15:39	1

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Client Sample Results

Client: URS Corporation TestAmerica Job ID: 580-50674-1

Project/Site: Former Crown Cork and Seal Facility

Client Sample ID: OF2-OCB Lab Sample ID: 580-50674-3 Date Collected: 06/10/15 11:30

Matrix: Solid Date Received: 06/10/15 13:35 Percent Solids: 89.8

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline	ND		4.3	0.54	mg/Kg	\	06/16/15 15:06	06/16/15 18:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		50 - 150				06/16/15 15:06	06/16/15 18:04	1
Trifluorotoluene (Surr)	110		50 ₋ 150				06/16/15 15:06	06/16/15 18:04	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	0.0090	\overline{J}	0.011	0.00055	mg/Kg	<u></u>	06/19/15 08:37	06/23/15 01:43	1
PCB-1221	ND		0.012	0.0037	mg/Kg	☼	06/19/15 08:37	06/23/15 01:43	1
PCB-1232	ND		0.012	0.0024	mg/Kg	☆	06/19/15 08:37	06/23/15 01:43	1
PCB-1242	ND		0.011	0.0023	mg/Kg	☆	06/19/15 08:37	06/23/15 01:43	1
PCB-1248	ND		0.012	0.0018	mg/Kg	≎	06/19/15 08:37	06/23/15 01:43	1
PCB-1254	0.023		0.011	0.00099	mg/Kg	☆	06/19/15 08:37	06/23/15 01:43	1
PCB-1260	ND		0.011	0.0014	mg/Kg	₽	06/19/15 08:37	06/23/15 01:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	87		45 - 135	06/19/15 08:37	06/23/15 01:43	1
DCB Decachlorobiphenyl	87		50 - 140	06/19/15 08:37	06/23/15 01:43	1

Method: 7471A - Mercury (CVA	AA)						
Analyte	Result Qualifier	RL	MDL Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.041	0.022	0.0066 mg/Kg		06/16/15 09:30	06/16/15 11:28	1

QC Sample Results

Client: URS Corporation

Project/Site: Former Crown Cork and Seal Facility

TestAmerica Job ID: 580-50674-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 580-192762/1-A

Matrix: Solid

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 192762

Analysis Batch: 192769	МВ	МВ						Prep Batch:	192762
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.040	0.0038	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
1,1,1-Trichloroethane	ND		0.040	0.0056	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
1,1,2,2-Tetrachloroethane	ND		0.010	0.0023	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
1,1,2-Trichloroethane	ND		0.012	0.0028			06/21/15 09:09	06/21/15 18:18	1
1,1-Dichloroethane	ND		0.040	0.0042			06/21/15 09:09		1
1,1-Dichloroethene	ND		0.020	0.0049			06/21/15 09:09		1
1,1-Dichloropropene	ND		0.040	0.0053			06/21/15 09:09		1
1,2,3-Trichlorobenzene	0.0107	J	0.040	0.0031			06/21/15 09:09		1
1,2,3-Trichloropropane	ND		0.040		mg/Kg		06/21/15 09:09		1
1,2,4-Trichlorobenzene	ND		0.040	0.0039			06/21/15 09:09		1
1,2,4-Trimethylbenzene	ND		0.040	0.0024			06/21/15 09:09		1
1,2-Dibromo-3-Chloropropane	ND		0.20	0.0026			06/21/15 09:09		1
1,2-Dibromoethane	ND		0.016	0.0034			06/21/15 09:09		
1,2-Dichlorobenzene	ND		0.040		mg/Kg		06/21/15 09:09		1
1,2-Dichloroethane	ND		0.016	0.0033			06/21/15 09:09		1
1,2-Dichloropropane	ND		0.010	0.0033			06/21/15 09:09		
1,3,5-Trimethylbenzene	ND ND		0.012	0.0024			06/21/15 09:09		1
1,3-Dichlorobenzene	ND ND		0.040				06/21/15 09:09		_
					mg/Kg				1
1,3-Dichloropropane	ND		0.040	0.0055			06/21/15 09:09		1
1,4-Dichlorobenzene	ND		0.060		mg/Kg		06/21/15 09:09		1
2,2-Dichloropropane	ND		0.040	0.0048			06/21/15 09:09		1
2-Butanone (MEK)	ND		0.40		mg/Kg		06/21/15 09:09		1
2-Chlorotoluene	ND		0.040	0.0034			06/21/15 09:09		1
2-Hexanone	ND		0.20		mg/Kg		06/21/15 09:09		
4-Chlorotoluene	ND		0.040	0.0030			06/21/15 09:09		1
4-Methyl-2-pentanone (MIBK)	ND		0.20		mg/Kg		06/21/15 09:09		1
Acetone	ND		0.80		mg/Kg		06/21/15 09:09		
Benzene	ND		0.016	0.0035			06/21/15 09:09		1
Bromobenzene	ND		0.040	0.0024			06/21/15 09:09		1
Bromochloromethane	ND		0.040	0.0046			06/21/15 09:09		1
Bromodichloromethane	ND		0.040	0.0014			06/21/15 09:09		1
Bromoform	ND		0.040	0.0065			06/21/15 09:09	06/21/15 18:18	1
Bromomethane	ND		0.14		mg/Kg		06/21/15 09:09	06/21/15 18:18	1
Carbon disulfide	ND		0.040	0.0044			06/21/15 09:09	06/21/15 18:18	1
Carbon tetrachloride	ND		0.020	0.0038	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
Chlorobenzene	ND		0.040	0.0098	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
Chloroethane	ND		0.40	0.016	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
Chloroform	ND		0.040	0.0042	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
Chloromethane	ND		0.10	0.010	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
cis-1,2-Dichloroethene	ND		0.040	0.0049	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
cis-1,3-Dichloropropene	ND		0.016	0.0018	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
Dibromochloromethane	ND		0.020	0.0028			06/21/15 09:09	06/21/15 18:18	1
Dibromomethane	ND		0.060		mg/Kg		06/21/15 09:09	06/21/15 18:18	1
Dichlorodifluoromethane	ND		0.040	0.0065			06/21/15 09:09	06/21/15 18:18	1
Ethylbenzene	ND		0.040	0.0020			06/21/15 09:09		1
Hexachlorobutadiene	ND		0.080		mg/Kg			06/21/15 18:18	1
Isopropylbenzene	ND		0.040	0.0026			06/21/15 09:09		1
m,p-Xylene	ND		0.040	0.0030			06/21/15 09:09		1

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Project/Site: Former Crown Cork and Seal Facility

Client: URS Corporation

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 580-192762/1-A Client Sample ID: Method Blank **Matrix: Solid Prep Type: Total/NA Prep Batch: 192762 Analysis Batch: 192769**

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.040	0.0060	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
Methylene Chloride	0.0181	J	0.025	0.012	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
Naphthalene	0.0103	J	0.040	0.0035	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
n-Butylbenzene	ND		0.040	0.0035	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
N-Propylbenzene	ND		0.040	0.0026	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
o-Xylene	ND		0.040	0.0030	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
p-Isopropyltoluene	ND		0.040	0.0028	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
sec-Butylbenzene	ND		0.040	0.0028	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
Styrene	ND		0.040	0.0024	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
tert-Butylbenzene	ND		0.040	0.0031	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
Tetrachloroethene	ND		0.020	0.0053	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
Toluene	0.00296	J	0.040	0.0026	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
trans-1,2-Dichloroethene	ND		0.040	0.0038	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
trans-1,3-Dichloropropene	ND		0.040	0.0070	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
Trichloroethene	ND		0.024	0.0031	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
Trichlorofluoromethane	ND		0.040	0.0059	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
Vinyl chloride	ND		0.016	0.0071	mg/Kg		06/21/15 09:09	06/21/15 18:18	1
	MB	МВ							
							_		

	MB	MB				
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		71 - 136	06/21/15 09:09	06/21/15 18:18	1
4-Bromofluorobenzene (Surr)	102		70 - 120	06/21/15 09:09	06/21/15 18:18	1
Dibromofluoromethane (Surr)	103		75 ₋ 132	06/21/15 09:09	06/21/15 18:18	1
Toluene-d8 (Surr)	99		80 - 120	06/21/15 09:09	06/21/15 18:18	1
	1,2-Dichloroethane-d4 (Surr) 4-Bromofluorobenzene (Surr) Dibromofluoromethane (Surr)	Surrogate%Recovery1,2-Dichloroethane-d4 (Surr)1064-Bromofluorobenzene (Surr)102Dibromofluoromethane (Surr)103	1,2-Dichloroethane-d4 (Surr)1064-Bromofluorobenzene (Surr)102Dibromofluoromethane (Surr)103	Surrogate %Recovery Qualifier Limits 1,2-Dichloroethane-d4 (Surr) 106 71 - 136 4-Bromofluorobenzene (Surr) 102 70 - 120 Dibromofluoromethane (Surr) 103 75 - 132	Surrogate %Recovery Qualifier Limits Prepared 1,2-Dichloroethane-d4 (Surr) 106 71 - 136 06/21/15 09:09 4-Bromofluorobenzene (Surr) 102 70 - 120 06/21/15 09:09 Dibromofluoromethane (Surr) 103 75 - 132 06/21/15 09:09	Surrogate %Recovery Qualifier Limits Prepared Analyzed 1,2-Dichloroethane-d4 (Surr) 106 71 - 136 06/21/15 09:09 06/21/15 18:18 4-Bromofluorobenzene (Surr) 102 70 - 120 06/21/15 09:09 06/21/15 18:18 Dibromofluoromethane (Surr) 103 75 - 132 06/21/15 09:09 06/21/15 18:18

Lab Sample ID: MB 580-192762/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 192765 Prep Batch: 192762 MB MB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		0.020	0.0053	mg/Kg		06/21/15 09:09	06/22/15 01:22	1
	MB	МВ							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1.2-Dichloroethane-d/ (Surr)	- 85		71 136				06/21/15 00:00	06/22/15 01:22	

Surrogate	701Xecovery	Qualifiei	Liiiii	riepaieu	Allalyzeu	Diriac
1,2-Dichloroethane-d4 (Surr)	85		71 - 136	06/21/15 09:09	06/22/15 01:22	1
4-Bromofluorobenzene (Surr)	92		70 - 120	06/21/15 09:09	06/22/15 01:22	1
Dibromofluoromethane (Surr)	92		75 - 132	06/21/15 09:09	06/22/15 01:22	1
Toluene-d8 (Surr)	107		80 - 120	06/21/15 09:09	06/22/15 01:22	1

Lab Sample ID: LCS 580-192762/2-A

Matrix: Solid

1,1-Dichloroethene

Analysis Batch: 192769							Prep Batch: 192762
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
1,1,1,2-Tetrachloroethane	0.800	0.839		mg/Kg		105	72 - 123
1,1,1-Trichloroethane	0.800	0.830		mg/Kg		104	63 - 135
1,1,2,2-Tetrachloroethane	0.800	0.791		mg/Kg		99	73 - 125
1,1,2-Trichloroethane	0.800	0.783		mg/Kg		98	77 - 124
1,1-Dichloroethane	0.800	0.865		mg/Kg		108	70 - 128

0.805

TestAmerica Seattle

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

70 - 133

101

mg/Kg

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0.800

QC Sample Results

Client: URS Corporation

Project/Site: Former Crown Cork and Seal Facility

TestAmerica Job ID: 580-50674-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-192762/2-A

Matrix: Solid

Client Sample ID: Lab Control Sample Prep Type: Total/NA Prep Batch: 192762

Analysis Batch: 192769	Spike	LCS	LCS		Prep Batch: 19276 %Rec.
Analyte	Added	Result	Qualifier Unit	D %Rec	Limits
1,1-Dichloropropene	0.800	0.913	mg/Kg	114	77 - 125
1,2,3-Trichlorobenzene	0.800	0.774	mg/Kg	97	61 - 130
1,2,3-Trichloropropane	0.800	0.851	mg/Kg	106	77 - 123
1,2,4-Trichlorobenzene	0.800	0.747	mg/Kg	93	61 - 130
1,2,4-Trimethylbenzene	0.800	0.796	mg/Kg	100	79 - 124
1,2-Dibromo-3-Chloropropane	0.800	0.828	mg/Kg	103	53 - 132
1,2-Dibromoethane	0.800	0.788	mg/Kg	99	69 - 126
1,2-Dichlorobenzene	0.800	0.798	mg/Kg	100	79 - 117
1,2-Dichloroethane	0.800	0.800	mg/Kg	100	71 - 128
1,2-Dichloropropane	0.800	0.832	mg/Kg	104	76 - 161
1,3,5-Trimethylbenzene	0.800	0.814	mg/Kg	102	80 - 125
1,3-Dichlorobenzene	0.800	0.776	mg/Kg	97	79 ₋ 119
1,3-Dichloropropane	0.800	0.803	mg/Kg	100	77 - 123
1,4-Dichlorobenzene	0.800	0.774	mg/Kg	97	79 - 117
2,2-Dichloropropane	0.800	0.753	mg/Kg	94	56 - 144
2-Butanone (MEK)	3.20	3.04	mg/Kg	95	30 - 160
2-Chlorotoluene	0.800	0.810	mg/Kg	101	79 ₋ 122
2-Hexanone	3.20	3.26	mg/Kg	102	45 - 145
4-Chlorotoluene	0.800	0.801	mg/Kg	100	80 - 122
4-Methyl-2-pentanone (MIBK)	3.20	3.35	mg/Kg	105	45 - 145
Acetone	3.20	2.97	mg/Kg	93	20 - 160
Benzene	0.800	0.829	mg/Kg	104	70 - 128
Bromobenzene	0.800	0.797	mg/Kg	100	80 - 120
Bromochloromethane	0.800	0.838	mg/Kg	105	78 ₋ 123
Bromodichloromethane	0.800	0.839	mg/Kg	105	58 - 133
Bromoform	0.800	0.812	mg/Kg	102	50 - 124
Bromomethane	0.998	1.01	mg/Kg	101	57 - 148
Carbon disulfide	0.800	0.829	mg/Kg	104	45 - 160
Carbon tetrachloride	0.800	0.861	mg/Kg	108	59 ₋ 145
Chlorobenzene	0.800	0.773	mg/Kg	97	75 ₋ 120
Chloroethane	1.00	1.03	mg/Kg	103	48 - 167
Chloroform	0.800	0.822	mg/Kg	103	78 - 125
Chloromethane	1.00	1.01	mg/Kg	101	55 - 136
cis-1,2-Dichloroethene	0.800	0.842	mg/Kg	105	70 - 130
cis-1,3-Dichloropropene	0.800	0.844	mg/Kg	106	69 - 129
Dibromochloromethane	0.800	0.831	mg/Kg	104	42 - 129
Dibromomethane	0.800	0.820	mg/Kg	103	78 - 126
Dichlorodifluoromethane	0.998	0.780	mg/Kg	78	38 - 150
Ethylbenzene	0.800	0.783	mg/Kg	98	78 ₋ 126
Hexachlorobutadiene	0.800	0.720	mg/Kg	90	68 - 134
Isopropylbenzene	0.800	0.799	mg/Kg	100	79 - 127
m,p-Xylene	0.800	0.793	mg/Kg	99	78 - 126
Methyl tert-butyl ether	0.800	0.793	mg/Kg	106	65 - 125
Methylene Chloride	0.800	0.837		105	57 ₋ 146
Naphthalene	0.800	0.837	mg/Kg	105	57 - 146 14 - 170
			mg/Kg		
n-Butylbenzene	0.800	0.783	mg/Kg	98	78 - 128
N-Propylbenzene	0.800	0.796	mg/Kg	100	81 ₋ 127
o-Xylene	0.800	0.825	mg/Kg	103	77 - 127

TestAmerica Seattle

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Project/Site: Former Crown Cork and Seal Facility

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 580-192762/2-A **Client Sample ID: Lab Control Sample Matrix: Solid Prep Type: Total/NA Prep Batch: 192762**

Analysis Batch: 192769

Toluene-d8 (Surr)

Client: URS Corporation

Spike	LCS	LCS				%Rec.
Added	Result	Qualifier	Unit	D	%Rec	Limits
0.800	0.780	-	mg/Kg		98	78 - 126
0.800	0.827		mg/Kg		103	78 - 128
0.800	0.806		mg/Kg		101	79 ₋ 127
0.800	0.831		mg/Kg		104	71 - 136
0.800	0.869		mg/Kg		109	56 ₋ 155
0.800	0.771		mg/Kg		96	75 - 126
0.800	0.863		mg/Kg		108	76 - 131
0.800	0.888		mg/Kg		111	72 - 129
0.800	0.849		mg/Kg		106	83 - 124
1.00	1.08		mg/Kg		108	47 - 165
1.00	0.951		mg/Kg		95	67 - 131
	0.800 0.800 0.800 0.800 0.800 0.800 0.800 0.800 0.800 0.800	Added Result 0.800 0.780 0.800 0.827 0.800 0.806 0.800 0.831 0.800 0.869 0.800 0.771 0.800 0.863 0.800 0.888 0.800 0.849 1.00 1.08	Added Result Qualifier 0.800 0.780 0.800 0.827 0.800 0.806 0.800 0.831 0.800 0.869 0.800 0.771 0.800 0.863 0.800 0.888 0.800 0.849 1.00 1.08	Added Result Qualifier Unit 0.800 0.780 mg/Kg 0.800 0.827 mg/Kg 0.800 0.806 mg/Kg 0.800 0.831 mg/Kg 0.800 0.869 mg/Kg 0.800 0.771 mg/Kg 0.800 0.863 mg/Kg 0.800 0.888 mg/Kg 0.800 0.849 mg/Kg 1.00 1.08 mg/Kg	Added Result Qualifier Unit D 0.800 0.780 mg/Kg mg/Kg 0.800 0.827 mg/Kg 0.800 0.806 mg/Kg 0.800 0.831 mg/Kg 0.800 0.869 mg/Kg 0.800 0.771 mg/Kg 0.800 0.863 mg/Kg 0.800 0.888 mg/Kg 0.800 0.849 mg/Kg 1.00 1.08 mg/Kg	Added Result Qualifier Unit D %Rec 0.800 0.780 mg/Kg 98 0.800 0.827 mg/Kg 103 0.800 0.806 mg/Kg 101 0.800 0.831 mg/Kg 104 0.800 0.869 mg/Kg 109 0.800 0.771 mg/Kg 96 0.800 0.863 mg/Kg 108 0.800 0.888 mg/Kg 111 0.800 0.849 mg/Kg 106 1.00 1.08 mg/Kg 108

LCS LCS Surrogate %Recovery Qualifier Limits 1,2-Dichloroethane-d4 (Surr) 102 71 - 136 4-Bromofluorobenzene (Surr) 101 70 - 120 Dibromofluoromethane (Surr) 102 75 - 132 97 80 - 120

Lab Sample ID: LCS 580-192762/2-A **Client Sample ID: Lab Control Sample Matrix: Solid** Prep Type: Total/NA **Prep Batch: 192762 Analysis Batch: 192765**

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits Tetrachloroethene 0.800 1.10 mg/Kg 138 56 - 155

LCS LCS %Recovery Qualifier Surrogate Limits 1,2-Dichloroethane-d4 (Surr) 87 71 - 136 4-Bromofluorobenzene (Surr) 91 70 - 120 75 - 132 Dibromofluoromethane (Surr) 96 80 - 120 Toluene-d8 (Surr) 102

Client Sample ID: Lab Control Sample Dup Lab Sample ID: LCSD 580-192762/3-A **Matrix: Solid Prep Type: Total/NA**

Analysis Batch: 192769

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,1,1,2-Tetrachloroethane	0.800	0.820		mg/Kg		102	72 - 123	2	20
1,1,1-Trichloroethane	0.800	0.802		mg/Kg		100	63 - 135	3	20
1,1,2,2-Tetrachloroethane	0.800	0.670		mg/Kg		84	73 - 125	17	22
1,1,2-Trichloroethane	0.800	0.752		mg/Kg		94	77 - 124	4	18
1,1-Dichloroethane	0.800	0.850		mg/Kg		106	70 - 128	2	21
1,1-Dichloroethene	0.800	0.731		mg/Kg		91	70 - 133	10	23
1,1-Dichloropropene	0.800	0.882		mg/Kg		110	77 - 125	3	16
1,2,3-Trichlorobenzene	0.800	0.786		mg/Kg		98	61 - 130	2	23
1,2,3-Trichloropropane	0.800	0.746		mg/Kg		93	77 - 123	13	23
1,2,4-Trichlorobenzene	0.800	0.756		mg/Kg		95	61 - 130	1	22
1,2,4-Trimethylbenzene	0.800	0.779		mg/Kg		97	79 - 124	2	18
1,2-Dibromo-3-Chloropropane	0.800	0.714		mg/Kg		89	53 - 132	15	27

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Prep Batch: 192762

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QC Sample Results

Client: URS Corporation

Project/Site: Former Crown Cork and Seal Facility

TestAmerica Job ID: 580-50674-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-192762/3-A

Client Sample ID: Lab Control Sample Dup

Matrix: Solid Analysis Batch: 192769	Spike	LCSD	LCSD			Prep Ty Prep Ba %Rec.		
Analyte	Added	Result	Qualifier Unit	D	%Rec	Limits	RPD	Limit
1,2-Dibromoethane	0.800	0.733	mg/l	√g	92	69 - 126	7	21
1,2-Dichlorobenzene	0.800	0.802	mg/l	(g	100	79 - 117	1	17
1,2-Dichloroethane	0.800	0.791	mg/l	〈 g	99	71 - 128	1	18
1,2-Dichloropropane	0.800	0.802	mg/l	K g	100	76 - 161	4	15
1,3,5-Trimethylbenzene	0.800	0.793	mg/l	〈 g	99	80 - 125	3	18
1,3-Dichlorobenzene	0.800	0.763	mg/l	(g	95	79 - 119	2	17
1,3-Dichloropropane	0.800	0.782	mg/l	K g	98	77 - 123	3	19
1,4-Dichlorobenzene	0.800	0.765	mg/l	〈 g	96	79 - 117	1	18
2,2-Dichloropropane	0.800	0.720	mg/l	(g	90	56 - 144	4	21
2-Butanone (MEK)	3.20	2.57	mg/l	K g	80	30 - 160	17	30
2-Chlorotoluene	0.800	0.802	mg/l	(g	100	79 - 122	1	18
2-Hexanone	3.20	2.78	mg/l	(g	87	45 - 145	16	30
4-Chlorotoluene	0.800	0.799	mg/l	K g	100	80 - 122	0	18
4-Methyl-2-pentanone (MIBK)	3.20	2.84	mg/l	(g	89	45 - 145	16	30
Acetone	3.20	2.35	mg/l	(g	73	20 - 160	23	30
Benzene	0.800	0.814	mg/l	(g	102	70 - 128	2	19
Bromobenzene	0.800	0.789	mg/l	_	99	80 - 120	1	19
Bromochloromethane	0.800	0.806	mg/l	(g	101	78 ₋ 123	4	19
Bromodichloromethane	0.800	0.806	mg/l	√g	101	58 - 133	4	19
Bromoform	0.800	0.737	mg/l	_	92	50 - 124	10	25
Bromomethane	0.998	1.04	mg/l	-	104	57 - 148	4	29
Carbon disulfide	0.800	0.783	mg/l		98	45 - 160	6	30
Carbon tetrachloride	0.800	0.830	mg/l	_	104	59 ₋ 145	4	19
Chlorobenzene	0.800	0.756	mg/l	_	94	75 ₋ 120	2	21
Chloroethane	1.00	1.02	mg/l		102	48 - 167	1	53
Chloroform	0.800	0.803	mg/l		100	78 ₋ 125	2	17
Chloromethane	1.00	0.970	mg/l	_	97	55 ₋ 136	4	26
cis-1,2-Dichloroethene	0.800	0.796	mg/l		99	70 - 130	6	19
cis-1,3-Dichloropropene	0.800	0.827	mg/l	_	103	69 - 129	2	19
Dibromochloromethane	0.800	0.809	mg/l	_	101	42 - 129	3	23
Dibromomethane	0.800	0.765	mg/l		96	78 - 126	7	18
Dichlorodifluoromethane	0.998	0.735	mg/l	_	74	38 ₋ 150	6	26
Ethylbenzene	0.800	0.769	mg/l	_	96	78 ₋ 126	2	23
Hexachlorobutadiene	0.800	0.682	mg/l		85	68 - 134	5	21
Isopropylbenzene	0.800	0.772	mg/l	-	97	79 ₋ 127	3	20
m,p-Xylene	0.800	0.769	mg/l		96	78 - 126	3	23
Methyl tert-butyl ether	0.800	0.793	mg/l		99	65 - 125	7	30
Methylene Chloride	0.800	0.808	mg/l	_	101	57 - 146	4	21
Naphthalene	0.800	0.776	mg/l	_	97	14 - 170	8	50
n-Butylbenzene	0.800	0.730	mg/l		91	78 - 128	7	17
N-Propylbenzene	0.800	0.768	mg/l	_	96	81 - 127	4	20
o-Xylene	0.800	0.800	mg/l	_	100	77 ₋ 127	3	22
p-Isopropyltoluene	0.800	0.742	mg/l		93	78 - 126	5	18
sec-Butylbenzene	0.800	0.742	mg/l	_	99	78 - 128	4	17
Styrene	0.800	0.792	mg/l	-	99	70 - 120 79 - 127	2	21
							3	
tert-Butylbenzene	0.800	0.803	mg/l		100	71 - 136		27
Toluene	0.800	0.761	mg/l	-	95	75 ₋ 126	1	19
trans-1,2-Dichloroethene	0.800	0.870	mg/l	\ y	109	76 - 131	1	18

Client: URS Corporation TestAmerica Job ID: 580-50674-1

Project/Site: Former Crown Cork and Seal Facility

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 580-192762/3-A

Matrix: Solid

Analysis Batch: 192769

Spike LCSD LCSD Spike LCSD LCSD Rec.

Analyte Added Result Qualifier Unit D Rec Limits RPD Limit

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
trans-1,3-Dichloropropene	0.800	0.876		mg/Kg		110	72 - 129	1	20
Trichloroethene	0.800	0.846		mg/Kg		106	83 - 124	0	17
Trichlorofluoromethane	1.00	0.989		mg/Kg		99	47 - 165	9	54
Vinyl chloride	1.00	0.873		mg/Kg		87	67 - 131	8	22
	trans-1,3-Dichloropropene Trichloroethene Trichlorofluoromethane	Analyte Added trans-1,3-Dichloropropene 0.800 Trichloroethene 0.800 Trichlorofluoromethane 1.00	Analyte Added trans-1,3-Dichloropropene Result trans-1,3-Dichloropropene 0.800 0.876 Trichloroethene 0.800 0.846 Trichlorofluoromethane 1.00 0.989	Analyte Added trans-1,3-Dichloropropene Result 0.800 Qualifier Trichloroethene 0.800 0.846 Trichlorofluoromethane 1.00 0.989	Analyte Added trans-1,3-Dichloropropene Result qualifier Unit mg/Kg Trichloroethene 0.800 0.846 mg/Kg Trichlorofluoromethane 1.00 0.989 mg/Kg	Analyte Added trans-1,3-Dichloropropene Added number of trans-1,3-Dichloropropene Added number of trans-1,3-Dichloropropene Result qualifier mg/Kg Unit propertor mg/Kg D Trichloroethene 0.800 0.846 mg/Kg mg/	Analyte Added trans-1,3-Dichloropropene Added 0.800 Result 0.876 Qualifier mg/Kg Unit value D %Rec mg/Kg Trichloroethene 0.800 0.846 mg/Kg 106 Trichlorofluoromethane 1.00 0.989 mg/Kg 99	Analyte Added trans-1,3-Dichloropropene Result 0.800 Qualifier 0.876 Unit mg/Kg D %Rec 1100 Limits 72 - 129 Trichloroethene 0.800 0.846 mg/Kg 110 83 - 124 Trichlorofluoromethane 1.00 0.989 mg/Kg 99 47 - 165	Analyte Added trans-1,3-Dichloropropene Result of trans-1,3-Dichloropropene Qualifier of trans-1,3-Dichloropropene Unit of trans-1,3-Dichloropropene Unit of trans-1,3-Dichloropropene Unit of trans-1,3-Dichloropropene Mg/Kg 110 72 - 129 1 Trichloropropene 0.800 0.846 mg/Kg 106 83 - 124 0 Trichlorofluoromethane 1.00 0.989 mg/Kg 99 47 - 165 9

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		71 - 136
4-Bromofluorobenzene (Surr)	100		70 - 120
Dibromofluoromethane (Surr)	101		75 - 132
Toluene-d8 (Surr)	98		80 - 120

Lab Sample ID: LCSD 580-192762/3-A **Client Sample ID: Lab Control Sample Dup Matrix: Solid** Prep Type: Total/NA **Prep Batch: 192762 Analysis Batch: 192765** LCSD LCSD Spike %Rec. **RPD** Added Result Qualifier Unit Limits RPD Limit Analyte D %Rec

Tetrachloroethene			0.800	1.23	mg/Kg	154	56 - 155	11	27
	LCSD	LCSD							
Surrogate	%Recovery	Qualifier	Limits						
1.2-Dichloroethane-d4 (Surr)	9.3		71 - 136						

 Surrogate
 %Recovery
 Qualifier
 Limits

 1,2-Dichloroethane-d4 (Surr)
 93
 71 - 136

 4-Bromofluorobenzene (Surr)
 92
 70 - 120

 Dibromofluoromethane (Surr)
 96
 75 - 132

 Toluene-d8 (Surr)
 101
 80 - 120

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 580-192194/1-A

Matrix: Solid

Analysis Batch: 192666

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 192194

_	MB	MB						•	
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		0.010	0.0020	mg/Kg		06/15/15 17:25	06/19/15 11:25	1
2-Methylnaphthalene	ND		0.0050	0.0012	mg/Kg		06/15/15 17:25	06/19/15 11:25	1
1-Methylnaphthalene	ND		0.010	0.0015	mg/Kg		06/15/15 17:25	06/19/15 11:25	1
Acenaphthylene	ND		0.0050	0.00049	mg/Kg		06/15/15 17:25	06/19/15 11:25	1
Acenaphthene	ND		0.0050	0.00077	mg/Kg		06/15/15 17:25	06/19/15 11:25	1
Fluorene	ND		0.0050	0.00063	mg/Kg		06/15/15 17:25	06/19/15 11:25	1
Phenanthrene	ND		0.010	0.0015	mg/Kg		06/15/15 17:25	06/19/15 11:25	1
Anthracene	ND		0.0050	0.00074	mg/Kg		06/15/15 17:25	06/19/15 11:25	1
Fluoranthene	ND		0.0050	0.00087	mg/Kg		06/15/15 17:25	06/19/15 11:25	1
Pyrene	ND		0.010	0.0015	mg/Kg		06/15/15 17:25	06/19/15 11:25	1
Benzo[a]anthracene	ND		0.010	0.0015	mg/Kg		06/15/15 17:25	06/19/15 11:25	1
Chrysene	ND		0.0050	0.00089	mg/Kg		06/15/15 17:25	06/19/15 11:25	1
Benzo[b]fluoranthene	ND		0.010	0.0015	mg/Kg		06/15/15 17:25	06/19/15 11:25	1
Benzo[k]fluoranthene	ND		0.010	0.0015	mg/Kg		06/15/15 17:25	06/19/15 11:25	1
Benzo[a]pyrene	ND		0.0050	0.00093	mg/Kg		06/15/15 17:25	06/19/15 11:25	1
Indeno[1,2,3-cd]pyrene	ND		0.0050	0.00092	mg/Kg		06/15/15 17:25	06/19/15 11:25	1

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Project/Site: Former Crown Cork and Seal Facility

Client: URS Corporation

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: MB 580-192194/1-A Client Sample ID: Method Blank **Matrix: Solid Prep Type: Total/NA Analysis Batch: 192666 Prep Batch: 192194** MB MB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenz(a,h)anthracene	ND		0.0050	0.00090	mg/Kg		06/15/15 17:25	06/19/15 11:25	1
Benzo[g,h,i]perylene	ND		0.010	0.0015	mg/Kg		06/15/15 17:25	06/19/15 11:25	1

MB MB

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 06/15/15 17:25 06/19/15 11:25 Terphenyl-d14 42 - 151 95

Lab Sample ID: LCS 580-192194/2-A **Client Sample ID: Lab Control Sample**

Matrix: Solid Prep Type: Total/NA **Analysis Batch: 192666 Prep Batch: 192194**

, , , , , , , , , , , , , , , , , , , ,	Spike	LCS I	LCS			%Rec.
Analyte	Added	Result (Qualifier L	nit	D %Rec	Limits
Naphthalene	1.00	0.841	n	ng/Kg	84	62 - 112
2-Methylnaphthalene	1.00	0.789	n	ng/Kg	79	64 - 119
1-Methylnaphthalene	1.00	0.923	n	ng/Kg	92	62 - 118
Acenaphthylene	1.00	0.856	n	ng/Kg	86	68 - 120
Acenaphthene	1.00	0.872	n	ng/Kg	87	68 - 116
Fluorene	1.00	1.07	n	ng/Kg	107	70 - 121
Phenanthrene	1.00	0.805	n	ng/Kg	81	73 - 106
Anthracene	1.00	0.969	n	ng/Kg	97	73 - 116
Fluoranthene	1.00	0.972	n	ng/Kg	97	73 - 125
Pyrene	1.00	0.900	n	ng/Kg	90	70 - 120
Benzo[a]anthracene	1.00	0.982	n	ng/Kg	98	76 ₋ 119
Chrysene	1.00	0.951	n	ng/Kg	95	75 - 114
Benzo[b]fluoranthene	1.00	0.869	n	ng/Kg	87	63 - 132
Benzo[k]fluoranthene	1.00	0.956	n	ng/Kg	96	63 - 119
Benzo[a]pyrene	1.00	0.943	n	ng/Kg	94	72 - 117
Indeno[1,2,3-cd]pyrene	1.00	0.924	n	ng/Kg	92	56 - 127
Dibenz(a,h)anthracene	1.00	0.993	n	ng/Kg	99	56 - 134
Benzo[g,h,i]perylene	1.00	0.924	n	ng/Kg	92	55 ₋ 139

LCS LCS

Surrogate %Recovery Qualifier Limits Terphenyl-d14 42 - 151 92

Lab Sample ID: LCSD 580-192194/3-A

Matrix: Solid

Analysis Batch: 192666							Prep Ba	itch: 19	32194
-	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Naphthalene	1.00	0.816		mg/Kg		82	62 - 112	3	26
2-Methylnaphthalene	1.00	0.773		mg/Kg		77	64 - 119	2	27
1-Methylnaphthalene	1.00	0.908		mg/Kg		91	62 - 118	2	30
Acenaphthylene	1.00	0.850		mg/Kg		85	68 - 120	1	28
Acenaphthene	1.00	0.875		mg/Kg		87	68 - 116	0	27
Fluorene	1.00	1.03		mg/Kg		103	70 - 121	3	30
Phenanthrene	1.00	0.803		mg/Kg		80	73 - 106	0	28
Anthracene	1.00	0.963		mg/Kg		96	73 - 116	1	27
Fluoranthene	1.00	0.953		mg/Kg		95	73 - 125	2	30
Pyrene	1.00	0.885		mg/Kg		88	70 - 120	2	30

TestAmerica Seattle

Prep Type: Total/NA

Client Sample ID: Lab Control Sample Dup

Client: URS Corporation

TestAmerica Job ID: 580-50674-1 Project/Site: Former Crown Cork and Seal Facility

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCSD 580-192194/3-A

Matrix: Solid

Analysis Batch: 192666

Client Sample ID: Lab Control Sample Dup **Prep Type: Total/NA**

Prep Batch: 192194

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzo[a]anthracene	1.00	0.955		mg/Kg		96	76 - 119	3	27
Chrysene	1.00	0.975		mg/Kg		97	75 - 114	2	26
Benzo[b]fluoranthene	1.00	0.867		mg/Kg		87	63 - 132	0	30
Benzo[k]fluoranthene	1.00	0.950		mg/Kg		95	63 - 119	1	30
Benzo[a]pyrene	1.00	0.943		mg/Kg		94	72 - 117	0	30
Indeno[1,2,3-cd]pyrene	1.00	0.923		mg/Kg		92	56 - 127	0	29
Dibenz(a,h)anthracene	1.00	0.982		mg/Kg		98	56 - 134	1	30
Benzo[g,h,i]perylene	1.00	0.915		mg/Kg		92	55 - 139	1	28

LCSD LCSD

Surrogate %Recovery Qualifier Limits 42 - 151 Terphenyl-d14

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 580-192194/1-A

Matrix: Solid

Analysis Batch: 192701

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 192194

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	ND ND	0.60	0.050	mg/Kg		06/15/15 17:25	06/19/15 19:22	1
Butyl benzyl phthalate	0.0764 J	0.20	0.050	mg/Kg		06/15/15 17:25	06/19/15 19:22	1
Diethyl phthalate	ND	0.20	0.015	mg/Kg		06/15/15 17:25	06/19/15 19:22	1
Dimethyl phthalate	ND	0.10	0.0050	mg/Kg		06/15/15 17:25	06/19/15 19:22	1
Di-n-butyl phthalate	ND	0.50	0.050	mg/Kg		06/15/15 17:25	06/19/15 19:22	1
Di-n-octyl phthalate	ND	0.50	0.0050	mg/Kg		06/15/15 17:25	06/19/15 19:22	1

MB MB

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	93		28 - 143	06/15/15 17:25	06/19/15 19:22	1
2-Fluorobiphenyl	91		42 - 140	06/15/15 17:25	06/19/15 19:22	1
2-Fluorophenol (Surr)	100		36 - 145	06/15/15 17:25	06/19/15 19:22	1
Nitrobenzene-d5 (Surr)	101		38 - 141	06/15/15 17:25	06/19/15 19:22	1
Phenol-d5 (Surr)	104		38 - 149	06/15/15 17:25	06/19/15 19:22	1
Terphenyl-d14 (Surr)	121		42 - 151	06/15/15 17:25	06/19/15 19:22	1

Lab Sample ID: LCS 580-192194/2-A

Matrix: Solid

Analysis Batch: 192701

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 192194

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Bis(2-ethylhexyl) phthalate	1.00	1.20		mg/Kg		120	62 - 144	
Butyl benzyl phthalate	1.00	1.15		mg/Kg		115	69 - 142	
Diethyl phthalate	1.00	0.940		mg/Kg		94	73 - 116	
Dimethyl phthalate	1.00	1.03		mg/Kg		103	78 - 117	
Di-n-butyl phthalate	1.00	1.09		mg/Kg		109	66 - 140	
Di-n-octyl phthalate	1.00	1.12		mg/Kg		112	65 - 141	

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 580-192194/2-A

Matrix: Solid

Analysis Batch: 192701

Client: URS Corporation

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 192194

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol (Surr)	108		28 - 143
2-Fluorobiphenyl	88		42 - 140
2-Fluorophenol (Surr)	93		36 - 145
Nitrobenzene-d5 (Surr)	100		38 - 141
Phenol-d5 (Surr)	104		38 - 149
Terphenyl-d14 (Surr)	115		42 - 151

Lab Sample ID: LCSD 580-192194/3-A **Client Sample ID: Lab Control Sample Dup**

Matrix: Solid

Analysis Batch: 192701

Prep Type: Total/NA

Prep Batch: 192194

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Bis(2-ethylhexyl) phthalate	1.00	1.18		mg/Kg		118	62 - 144	2	30
Butyl benzyl phthalate	1.00	1.19		mg/Kg		119	69 - 142	4	30
Diethyl phthalate	1.00	0.905		mg/Kg		91	73 - 116	4	26
Dimethyl phthalate	1.00	1.01		mg/Kg		101	78 - 117	2	30
Di-n-butyl phthalate	1.00	1.06		mg/Kg		106	66 - 140	3	30
Di-n-octyl phthalate	1.00	1.10		mg/Kg		110	65 - 141	2	30

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol (Surr)	105		28 - 143
2-Fluorobiphenyl	88		42 - 140
2-Fluorophenol (Surr)	93		36 - 145
Nitrobenzene-d5 (Surr)	100		38 - 141
Phenol-d5 (Surr)	101		38 - 149
Terphenyl-d14 (Surr)	115		42 - 151

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-192309/1-A **Client Sample ID: Method Blank Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 192316

Prep Batch: 192309 MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.50 mg/Kg 06/16/15 15:06 06/16/15 14:07 Gasoline 4.0 ND

MB MB Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 4-Bromofluorobenzene (Surr) 98 50 - 150 06/16/15 15:06 06/16/15 14:07 Trifluorotoluene (Surr) 54 50 - 150 06/16/15 15:06 06/16/15 14:07

Lab Sample ID: LCS 580-192309/2-A

Client Sample ID: Lab Control Sample **Matrix: Solid** Prep Type: Total/NA **Analysis Batch: 192316** Prep Batch: 192309 Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Gasoline 40.0 36.5 mg/Kg 91 68 - 120

Project/Site: Former Crown Cork and Seal Facility

Method: NWTPH-Gx - Northwest - Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: LCS 580-192309/2-A

Matrix: Solid

Analysis Batch: 192316

Client: URS Corporation

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 192309

LCS LCS

%Recovery Qualifier Surrogate Limits 4-Bromofluorobenzene (Surr) 102 50 - 150 Trifluorotoluene (Surr) 110 50 - 150

Lab Sample ID: LCSD 580-192309/3-A Client Sample ID: Lab Control Sample Dup **Prep Type: Total/NA**

Matrix: Solid

Analysis Batch: 192316							Prep Batch: 192309			
	Spike	LCSD	LCSD				%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Gasoline	40.0	40.4		mg/Kg		101	68 - 120	10	25	

LCSD LCSD Surrogate %Recovery Qualifier Limits 4-Bromofluorobenzene (Surr) 102 50 - 150 Trifluorotoluene (Surr) 113 50 - 150

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 580-192621/1-A

Matrix: Solid

Analysis Batch: 192830

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 192621

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	ND		0.010	0.00050	mg/Kg		06/19/15 08:37	06/22/15 12:23	1
PCB-1221	ND		0.011	0.0034	mg/Kg		06/19/15 08:37	06/22/15 12:23	1
PCB-1232	ND		0.011	0.0022	mg/Kg		06/19/15 08:37	06/22/15 12:23	1
PCB-1242	ND		0.010	0.0021	mg/Kg		06/19/15 08:37	06/22/15 12:23	1
PCB-1248	ND		0.011	0.0016	mg/Kg		06/19/15 08:37	06/22/15 12:23	1
PCB-1254	ND		0.010	0.00090	mg/Kg		06/19/15 08:37	06/22/15 12:23	1
PCB-1260	ND		0.010	0.0013	mg/Kg		06/19/15 08:37	06/22/15 12:23	1

MB MB %Recovery Qualifier Limits Dil Fac Surrogate Prepared Analyzed 85 45 - 135 06/19/15 08:37 06/22/15 12:23 Tetrachloro-m-xylene DCB Decachlorobiphenyl 114 50 - 140 06/19/15 08:37 06/22/15 12:23

Lab Sample ID: LCS 580-192621/6-A

Matrix: Solid

Analysis Batch: 192830

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 192621

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits PCB-1016 0.100 0.102 mg/Kg 102 40 - 140 mg/Kg PCB-1260 0.100 0.106 106 60 - 130

LCS LCS

Surrogate	%Recovery Qualifier	Limits
Tetrachloro-m-xylene	87	45 - 135
DCB Decachlorobiphenyl	117	50 - 140

Project/Site: Former Crown Cork and Seal Facility

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCSD 580-192621/7-A

Matrix: Solid

Analysis Batch: 192830

Client: URS Corporation

Client Sample ID:	Lab Control Sample Du
	Prep Type: Total/N

Prep Batch: 192621

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
PCB-1016	0.100	0.0963		mg/Kg		96	40 - 140	6	20
PCB-1260	0.100	0.0972		mg/Kg		97	60 - 130	9	20

LCSD LCSD %Recovery Qualifier Surrogate I imits Tetrachloro-m-xylene 84 45 - 135 DCB Decachlorobiphenyl 112 50 - 140

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC)

Lab Sample ID: MB 580-192811/1-A

Matrix: Solid

Analysis Batch: 192803

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 192811

MB MB **MDL** Unit Analyte Result Qualifier RL Prepared Analyzed Dil Fac 25 06/22/15 09:21 06/22/15 20:54 #2 Diesel (C10-C24) ND 3.6 mg/Kg Motor Oil (>C24-C36) ND 50 9.1 mg/Kg 06/22/15 09:21 06/22/15 20:54

MB MB

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac o-Terphenyl 97 50 - 150 06/22/15 09:21 06/22/15 20:54

Lab Sample ID: LCS 580-192811/2-A

Matrix: Solid

Analysis Batch: 192803

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 192811

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
#2 Diesel (C10-C24)	500	498		mg/Kg		100	70 - 125	
Motor Oil (>C24-C36)	502	543		ma/Ka		108	64 - 127	

LCS LCS

Surrogate %Recovery Qualifier Limits o-Terphenyl 50 - 150 107

Lab Sample ID: LCSD 580-192811/3-A

Matrix: Solid

Analysis Batch: 192803

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA **Prep Batch: 192811**

	Spike	e LCSD	LCSD			%Rec.		RPD
Analyte	Added	l Result	Qualifier	Unit	D %R	ec Limits	RPD	Limit
#2 Diesel (C10-C24)	500	487		mg/Kg		97 70 - 125	5 2	16
Motor Oil (>C24-C36)	502	532		mg/Kg	1	06 64 - 127	7 2	17

LCSD LCSD

Surrogate %Recovery Qualifier Limits o-Terphenyl 104 50 - 150

Project/Site: Former Crown Cork and Seal Facility

Method: NWTPH-Dx - Northwest - Semi-Volatile Petroleum Products (GC) (Continued)

Lab Sample ID: 580-50674-2 DU

Matrix: Solid

Analysis Batch: 193043

Client: URS Corporation

Client Sample ID: OF-3 Prep Type: Total/NA **Prep Batch: 192811** DU DU

Sample Sample **RPD** Analyte Result Qualifier Result Qualifier Unit D RPD Limit #2 Diesel (C10-C24) 1500 Y 1290 J mg/Kg 12 35 Motor Oil (>C24-C36) 12000 Y 10400 mg/Kg ₩ 13 35

DU DU

%Recovery Qualifier Surrogate Limits 50 - 150 o-Terphenyl 96

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 580-192206/22-A **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Solid

Analysis Batch: 192381

-	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.50	0.18	mg/Kg		06/16/15 07:49	06/16/15 16:40	10
Barium	ND		0.50	0.078	mg/Kg		06/16/15 07:49	06/16/15 16:40	10
Cadmium	ND		0.20	0.019	mg/Kg		06/16/15 07:49	06/16/15 16:40	10
Chromium	ND		0.50	0.063	mg/Kg		06/16/15 07:49	06/16/15 16:40	10
Lead	ND		0.50	0.048	mg/Kg		06/16/15 07:49	06/16/15 16:40	10
Selenium	ND		1.0	0.20	mg/Kg		06/16/15 07:49	06/16/15 16:40	10
Silver	ND		0.20	0.012	mg/Kg		06/16/15 07:49	06/16/15 16:40	10

Lab Sample ID: LCS 580-192206/23-A

Matrix: Solid Analysis Batch: 192381							Prep Type: Total Prep Batch: 192	
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Arsenic	200	198		mg/Kg		99	80 - 120	
Barium	200	205		mg/Kg		103	80 - 120	
Cadmium	5.00	4.73		mg/Kg		95	80 - 120	
Chromium	20.0	19.3		mg/Kg		97	80 - 120	
Lead	50.0	48.9		mg/Kg		98	80 - 120	
Selenium	200	203		mg/Kg		101	80 - 120	

30.9

mg/Kg

30.0

Lab Sample ID: LCSD 580-192206/24-A

Silver

		•	Jilelit Ja	IIIbie	ID. Lat	Control	Jampie	Dup
						Prep Ty	e: Tot	al/NA
						Prep Ba	itch: 19	92206
Spike	LCSD	LCSD				%Rec.		RPD
Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
200	197		mg/Kg		98	80 - 120	1	20
200	204		mg/Kg		102	80 - 120	0	20
5.00	4.72		mg/Kg		94	80 - 120	0	20
20.0	19.6		mg/Kg		98	80 - 120	1	20
50.0	49.0		mg/Kg		98	80 - 120	0	20
200	205		mg/Kg		102	80 - 120	1	20
30.0	30.8		mg/Kg		103	80 - 120	0	20
	Added 200 200 5.00 20.0 50.0 200	Added Result 200 197 200 204 5.00 4.72 20.0 19.6 50.0 49.0 200 205	Spike LCSD LCSD Added Result Qualifier 200 197 204 5.00 4.72 20.0 20.0 19.6 50.0 50.0 49.0 205	Spike LCSD LCSD Added Result Qualifier Unit 200 197 mg/Kg 200 204 mg/Kg 5.00 4.72 mg/Kg 20.0 19.6 mg/Kg 50.0 49.0 mg/Kg 200 205 mg/Kg	Spike LCSD LCSD Added Result Qualifier Unit D 200 197 mg/Kg mg/Kg 200 204 mg/Kg 5.00 4.72 mg/Kg 20.0 19.6 mg/Kg 50.0 49.0 mg/Kg 200 205 mg/Kg	Spike LCSD LCSD Added Result Qualifier Unit D %Rec 200 197 mg/Kg 98 200 204 mg/Kg 102 5.00 4.72 mg/Kg 94 20.0 19.6 mg/Kg 98 50.0 49.0 mg/Kg 98 200 205 mg/Kg 102	Spike LCSD LCSD Prep Ba %Rec. Added Result Qualifier Unit D %Rec Limits 200 197 mg/Kg 98 80 - 120 200 204 mg/Kg 102 80 - 120 5.00 4.72 mg/Kg 94 80 - 120 20.0 19.6 mg/Kg 98 80 - 120 50.0 49.0 mg/Kg 98 80 - 120 200 205 mg/Kg 102 80 - 120	Added Result Qualifier Unit D %Rec Limits RPD 200 197 mg/Kg 98 80 - 120 1 200 204 mg/Kg 102 80 - 120 0 5.00 4.72 mg/Kg 94 80 - 120 0 20.0 19.6 mg/Kg 98 80 - 120 1 50.0 49.0 mg/Kg 98 80 - 120 0 200 205 mg/Kg 102 80 - 120 1

TestAmerica Seattle

Client Sample ID: Lab Control Sample Dup

Prep Batch: 192206

Client Sample ID: Lab Control Sample

80 - 120

Client: URS Corporation
Project/Site: Former Crown Cork and Seal Facility

TestAmerica Job ID: 580-50674-1

99.0 66.2 - 134.

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Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSSRM 580-192206/25-A Matrix: Solid Analysis Batch: 192381				Clier	nt Sar	nple II	D: Lab Control Sample Prep Type: Total/NA Prep Batch: 192206
	Spike	LCSSRM	LCSSRM				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Arsenic	139	135		mg/Kg		97.3	70.4 - 140.
Barium	203	200		mg/Kg		98.3	3 73.4 - 127. 1
Cadmium	96.0	92.3		mg/Kg		96.2	73.2 - 127. 1
Chromium	136	134		mg/Kg		98.6	69.9 - 129.
Lead	133	127		mg/Kg		95.3	4 72.9 - 127. 8
Selenium	177	176		mg/Kg		99.6	67.8 - 131. 6

Method: 7471A - Mercury (CVAA)

Silver

Lab Sample ID: MB 580-192232/14-A

Matrix: Solid

Analysis Batch: 192259

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 192232

39.8

mg/Kg

40.2

MB MB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020	0.0060	mg/Kg		06/16/15 09:30	06/16/15 11:06	1

Lab Sample ID: LCS 580-192232/15-A Matrix: Solid Analysis Batch: 192259		Client Sample ID: Lab C Prep Prep						
-	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Mercury	0.167	0.155		mg/Kg		93	80 - 120	

Lab Sample ID: LCSD 580-192232/16-A			(Client Sa	mple	ID: Lab	Control		
Matrix: Solid							Prep Ty	oe: rot	ai/NA
Analysis Batch: 192259							Prep Ba	itch: 19	2232
	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.167	0.155		mg/Kg		93	80 - 120	0	20

Lab Sample ID: 580-50674- Matrix: Solid	-2 MS							C	Client Sample ID: OF-3 Prep Type: Total/NA	
Analysis Batch: 192259									Prep Batch: 192232	
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Mercury	1.4		0.174	1.17	4	mg/Kg	\	-101	80 - 120	

Lab Sample ID: 580-50674- Matrix: Solid	-2 MSD							C	lient Sam Prep Ty	•	
Analysis Batch: 192259									Prep Ba	atch: 19	2232
•	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	1.4		0.176	1.12	4	mg/Kg	\	-132	80 - 120	5	20

TestAmerica Seattle

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QC Sample Results

Client: URS Corporation TestAmerica Job ID: 580-50674-1

Project/Site: Former Crown Cork and Seal Facility

Lab Sample ID: 580-50674-2 DU

Matrix: Solid

Analysis Batch: 192259

Client Sample ID: OF-3

Prep Type: Total/NA

Prep Batch: 192232

Analysis Batch: 192259

Sample Sample DU DU

RPD

Analyte Result Qualifier Result Qualifier Unit D RPD Limit

AnalyteResult QualifierResult QualifierUnitDRPDLimitMercury1.41.04F3mg/Kg\$\frac{1}{20}\$2620

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6

8

9

11

Client: URS Corporation

Project/Site: Former Crown Cork and Seal Facility

TestAmerica Job ID: 580-50674-1

GC/MS VOA

Prep Batch: 192762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-1	OF-4	Total/NA	Solid	5035	
580-50674-1 - RA	OF-4	Total/NA	Solid	5035	
580-50674-2	OF-3	Total/NA	Solid	5035	
580-50674-2 - RA	OF-3	Total/NA	Solid	5035	
LCS 580-192762/2-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 580-192762/3-A	Lab Control Sample Dup	Total/NA	Solid	5035	
MB 580-192762/1-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 192765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-1 - RA	OF-4	Total/NA	Solid	8260C	192762
580-50674-2 - RA	OF-3	Total/NA	Solid	8260C	192762
LCS 580-192762/2-A	Lab Control Sample	Total/NA	Solid	8260C	192762
LCSD 580-192762/3-A	Lab Control Sample Dup	Total/NA	Solid	8260C	192762
MB 580-192762/1-A	Method Blank	Total/NA	Solid	8260C	192762

Analysis Batch: 192769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-1	OF-4	Total/NA	Solid	8260C	192762
580-50674-2	OF-3	Total/NA	Solid	8260C	192762
LCS 580-192762/2-A	Lab Control Sample	Total/NA	Solid	8260C	192762
LCSD 580-192762/3-A	Lab Control Sample Dup	Total/NA	Solid	8260C	192762
MB 580-192762/1-A	Method Blank	Total/NA	Solid	8260C	192762

GC/MS Semi VOA

Prep Batch: 192194

Lab Sample ID 580-50674-1	Client Sample ID OF-4	Prep Type Total/NA	Matrix Solid	Method 3550B	Prep Batch
580-50674-2	OF-3	Total/NA	Solid	3550B	
LCS 580-192194/2-A	Lab Control Sample	Total/NA	Solid	3550B	
LCSD 580-192194/3-A	Lab Control Sample Dup	Total/NA	Solid	3550B	
MB 580-192194/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 192666

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-1	OF-4	Total/NA	Solid	8270C SIM	192194
580-50674-2	OF-3	Total/NA	Solid	8270C SIM	192194
LCS 580-192194/2-A	Lab Control Sample	Total/NA	Solid	8270C SIM	192194
LCSD 580-192194/3-A	Lab Control Sample Dup	Total/NA	Solid	8270C SIM	192194
MB 580-192194/1-A	Method Blank	Total/NA	Solid	8270C SIM	192194

Analysis Batch: 192701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-1	OF-4	Total/NA	Solid	8270D	192194
580-50674-2	OF-3	Total/NA	Solid	8270D	192194
LCS 580-192194/2-A	Lab Control Sample	Total/NA	Solid	8270D	192194
LCSD 580-192194/3-A	Lab Control Sample Dup	Total/NA	Solid	8270D	192194
MB 580-192194/1-A	Method Blank	Total/NA	Solid	8270D	192194

TestAmerica Seattle

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Client: URS Corporation TestAmerica Job ID: 580-50674-1 Project/Site: Former Crown Cork and Seal Facility

GC VOA

Prep Batch: 192309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-1	OF-4	Total/NA	Solid	5030B	
580-50674-2	OF-3	Total/NA	Solid	5030B	
580-50674-3	OF2-OCB	Total/NA	Solid	5030B	
LCS 580-192309/2-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 580-192309/3-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
MB 580-192309/1-A	Method Blank	Total/NA	Solid	5030B	

Analysis Batch: 192316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-1	OF-4	Total/NA	Solid	NWTPH-Gx	192309
580-50674-2	OF-3	Total/NA	Solid	NWTPH-Gx	192309
580-50674-3	OF2-OCB	Total/NA	Solid	NWTPH-Gx	192309
LCS 580-192309/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Gx	192309
LCSD 580-192309/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Gx	192309
MB 580-192309/1-A	Method Blank	Total/NA	Solid	NWTPH-Gx	192309

GC Semi VOA

Prep Batch: 192621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-1	OF-4	Total/NA	Solid	3550B	
580-50674-2	OF-3	Total/NA	Solid	3550B	
580-50674-3	OF2-OCB	Total/NA	Solid	3550B	
LCS 580-192621/6-A	Lab Control Sample	Total/NA	Solid	3550B	
LCSD 580-192621/7-A	Lab Control Sample Dup	Total/NA	Solid	3550B	
MB 580-192621/1-A	Method Blank	Total/NA	Solid	3550B	

Analysis Batch: 192803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 580-192811/2-A	Lab Control Sample	Total/NA	Solid	NWTPH-Dx	192811
LCSD 580-192811/3-A	Lab Control Sample Dup	Total/NA	Solid	NWTPH-Dx	192811
MB 580-192811/1-A	Method Blank	Total/NA	Solid	NWTPH-Dx	192811

Prep Batch: 192811

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-1	OF-4	Total/NA	Solid	3546	
580-50674-2	OF-3	Total/NA	Solid	3546	
580-50674-2 DU	OF-3	Total/NA	Solid	3546	
LCS 580-192811/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCSD 580-192811/3-A	Lab Control Sample Dup	Total/NA	Solid	3546	
MB 580-192811/1-A	Method Blank	Total/NA	Solid	3546	

Analysis Batch: 192830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-1	OF-4	Total/NA	Solid	8082	192621
580-50674-2	OF-3	Total/NA	Solid	8082	192621
580-50674-3	OF2-OCB	Total/NA	Solid	8082	192621
LCS 580-192621/6-A	Lab Control Sample	Total/NA	Solid	8082	192621
LCSD 580-192621/7-A	Lab Control Sample Dup	Total/NA	Solid	8082	192621
MB 580-192621/1-A	Method Blank	Total/NA	Solid	8082	192621

TestAmerica Seattle

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Client: URS Corporation

Project/Site: Former Crown Cork and Seal Facility

TestAmerica Job ID: 580-50674-1

GC Semi VOA (Continued)

Analysis Batch: 193043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-1	OF-4	Total/NA	Solid	NWTPH-Dx	192811
580-50674-2	OF-3	Total/NA	Solid	NWTPH-Dx	192811
580-50674-2 DU	OF-3	Total/NA	Solid	NWTPH-Dx	192811

Metals

Prep Batch: 192206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-1	OF-4	Total/NA	Solid	3050B	
580-50674-2	OF-3	Total/NA	Solid	3050B	
LCS 580-192206/23-A	Lab Control Sample	Total/NA	Solid	3050B	
LCSD 580-192206/24-A	Lab Control Sample Dup	Total/NA	Solid	3050B	
LCSSRM 580-192206/25-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 580-192206/22-A	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 192232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-1	OF-4	Total/NA	Solid	7471A	
580-50674-2	OF-3	Total/NA	Solid	7471A	
580-50674-2 DU	OF-3	Total/NA	Solid	7471A	
580-50674-2 MS	OF-3	Total/NA	Solid	7471A	
580-50674-2 MSD	OF-3	Total/NA	Solid	7471A	
580-50674-3	OF2-OCB	Total/NA	Solid	7471A	
LCS 580-192232/15-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 580-192232/16-A	Lab Control Sample Dup	Total/NA	Solid	7471A	
MB 580-192232/14-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 192259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-1	OF-4	Total/NA	Solid	7471A	192232
580-50674-2	OF-3	Total/NA	Solid	7471A	192232
580-50674-2 DU	OF-3	Total/NA	Solid	7471A	192232
580-50674-2 MS	OF-3	Total/NA	Solid	7471A	192232
580-50674-2 MSD	OF-3	Total/NA	Solid	7471A	192232
580-50674-3	OF2-OCB	Total/NA	Solid	7471A	192232
LCS 580-192232/15-A	Lab Control Sample	Total/NA	Solid	7471A	192232
LCSD 580-192232/16-A	Lab Control Sample Dup	Total/NA	Solid	7471A	192232
MB 580-192232/14-A	Method Blank	Total/NA	Solid	7471A	192232

Analysis Batch: 192381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-1	OF-4	Total/NA	Solid	6020	192206
580-50674-2	OF-3	Total/NA	Solid	6020	192206
LCS 580-192206/23-A	Lab Control Sample	Total/NA	Solid	6020	192206
LCSD 580-192206/24-A	Lab Control Sample Dup	Total/NA	Solid	6020	192206
LCSSRM 580-192206/25-A	Lab Control Sample	Total/NA	Solid	6020	192206
MB 580-192206/22-A	Method Blank	Total/NA	Solid	6020	192206

TestAmerica Seattle

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Client: URS Corporation TestAmerica Job ID: 580-50674-1

Project/Site: Former Crown Cork and Seal Facility

Metals (Continued)

Analysis Batch: 192427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-2	OF-3	Total/NA	Solid	6020	192206

General Chemistry

Analysis Batch: 192109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
580-50674-1	OF-4	Total/NA	Solid	D 2216	
580-50674-2	OF-3	Total/NA	Solid	D 2216	
580-50674-3	OF2-OCB	Total/NA	Solid	D 2216	

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Lab Chronicle

Client: URS Corporation

Project/Site: Former Crown Cork and Seal Facility

TestAmerica Job ID: 580-50674-1

Lab Sample ID: 580-50674-1

Client Sample ID: OF-4 Date Collected: 06/10/15 09:00 **Matrix: Solid** Date Received: 06/10/15 13:35 Percent Solids: 96.5

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			192762	06/21/15 09:09	SOC	TAL SEA
Total/NA	Analysis	8260C		1	192769	06/21/15 20:30	CJ	TAL SEA
Total/NA	Prep	5035	RA		192762	06/21/15 09:09	SOC	TAL SEA
Total/NA	Analysis	8260C	RA	1	192765	06/22/15 03:26	CJ	TAL SEA
Total/NA	Prep	3550B			192194	06/15/15 17:25	RBL	TAL SEA
Total/NA	Analysis	8270C SIM		10	192666	06/19/15 19:27	CGM	TAL SEA
Total/NA	Prep	3550B			192194	06/15/15 17:25	RBL	TAL SEA
Total/NA	Analysis	8270D		10	192701	06/19/15 21:29	ERB	TAL SEA
Total/NA	Prep	5030B			192309	06/16/15 15:06	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	192316	06/16/15 16:58	D1R	TAL SEA
Total/NA	Prep	3550B			192621	06/19/15 08:37	EKK	TAL SEA
Total/NA	Analysis	8082		1	192830	06/23/15 01:09	CGM	TAL SEA
Total/NA	Prep	3546			192811	06/22/15 09:21	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		10	193043	06/24/15 07:09	EKK	TAL SEA
Total/NA	Prep	3050B			192206	06/16/15 07:49	MKN	TAL SEA
Total/NA	Analysis	6020		10	192381	06/16/15 18:34	FCW	TAL SEA
Total/NA	Prep	7471A			192232	06/16/15 09:30	MKN	TAL SEA
Total/NA	Analysis	7471A		1	192259	06/16/15 11:31	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	192109	06/14/15 15:39	JDR	TAL SEA

Client Sample ID: OF-3 Lab Sample ID: 580-50674-2

Date Collected: 06/10/15 10:30 **Matrix: Solid** Date Received: 06/10/15 13:35 Percent Solids: 91.6

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5035			192762	06/21/15 09:09	SOC	TAL SEA
Total/NA	Analysis	8260C		1	192769	06/21/15 21:03	CJ	TAL SEA
Total/NA	Prep	5035	RA		192762	06/21/15 09:09	SOC	TAL SEA
Total/NA	Analysis	8260C	RA	1	192765	06/22/15 03:58	CJ	TAL SEA
Total/NA	Prep	3550B			192194	06/15/15 17:25	RBL	TAL SEA
Total/NA	Analysis	8270C SIM		10	192666	06/19/15 19:49	CGM	TAL SEA
Total/NA	Prep	3550B			192194	06/15/15 17:25	RBL	TAL SEA
Total/NA	Analysis	8270D		10	192701	06/19/15 21:55	ERB	TAL SEA
Total/NA	Prep	5030B			192309	06/16/15 15:06	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	192316	06/16/15 17:31	D1R	TAL SEA
Total/NA	Prep	3550B			192621	06/19/15 08:37	EKK	TAL SEA
Total/NA	Analysis	8082		1	192830	06/23/15 01:26	CGM	TAL SEA
Total/NA	Prep	3546			192811	06/22/15 09:21	DCV	TAL SEA
Total/NA	Analysis	NWTPH-Dx		50	193043	06/24/15 07:25	EKK	TAL SEA
Total/NA	Prep	3050B			192206	06/16/15 07:49	MKN	TAL SEA
Total/NA	Analysis	6020		10	192381	06/16/15 18:41	FCW	TAL SEA
Total/NA	Prep	3050B			192206	06/16/15 07:49	MKN	TAL SEA
Total/NA	Analysis	6020		1000	192427	06/17/15 12:56	FCW	TAL SEA

TestAmerica Seattle

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6/26/2015

Lab Chronicle

Client: URS Corporation

Project/Site: Former Crown Cork and Seal Facility

Client Sample ID: OF-3

Lab Sample ID: 580-50674-2

TestAmerica Job ID: 580-50674-1

Date Collected: 06/10/15 10:30 **Matrix: Solid** Date Received: 06/10/15 13:35 Percent Solids: 91.6

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	7471A			192232	06/16/15 09:30	MKN	TAL SEA
Total/NA	Analysis	7471A		10	192259	06/16/15 12:04	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	192109	06/14/15 15:39	JDR	TAL SEA

Client Sample ID: OF2-OCB Lab Sample ID: 580-50674-3

Date Collected: 06/10/15 11:30 **Matrix: Solid**

Date Received: 06/10/15 13:35 Percent Solids: 89.8

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			192309	06/16/15 15:06	IWH	TAL SEA
Total/NA	Analysis	NWTPH-Gx		1	192316	06/16/15 18:04	D1R	TAL SEA
Total/NA	Prep	3550B			192621	06/19/15 08:37	EKK	TAL SEA
Total/NA	Analysis	8082		1	192830	06/23/15 01:43	CGM	TAL SEA
Total/NA	Prep	7471A			192232	06/16/15 09:30	MKN	TAL SEA
Total/NA	Analysis	7471A		1	192259	06/16/15 11:28	FCW	TAL SEA
Total/NA	Analysis	D 2216		1	192109	06/14/15 15:39	JDR	TAL SEA

Laboratory References:

TAL SEA = TestAmerica Seattle, 5755 8th Street East, Tacoma, WA 98424, TEL (253)922-2310

Certification Summary

Client: URS Corporation TestAmerica Job ID: 580-50674-1

Project/Site: Former Crown Cork and Seal Facility

Laboratory: TestAmerica Seattle

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska (UST)	State Program	10	UST-022	03-02-16
California	State Program	9	2901	01-31-17
L-A-B	DoD ELAP		L2236	01-19-16
L-A-B	ISO/IEC 17025		L2236	01-19-16
Montana (UST)	State Program	8	N/A	04-30-20
Oregon	NELAP	10	WA100007	11-06-15
US Fish & Wildlife	Federal		LE192332-0	02-28-16
USDA	Federal		P330-11-00222	04-08-17
Washington	State Program	10	C553	02-17-16

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Sample Summary

Client: URS Corporation

Project/Site: Former Crown Cork and Seal Facility

TestAmerica Job ID: 580-50674-1

Lab Sample ID	Client Sample ID	Matrix	Collected R	eceived
580-50674-1	OF-4	Solid	06/10/15 09:00 06/1	10/15 13:35
580-50674-2	OF-3	Solid	06/10/15 10:30 06/1	10/15 13:35
580-50674-3	OF2-OCB	Solid	06/10/15 11:30 06/1	10/15 13:35

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Seattle 5755 8th Street E. Tacoma, WA 9842 Tel. 253-922-2310 Fax 253-922-5047 www.testamerica



580-50674 Chain of Custody

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Chain of Custody Record

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Comments			_	1																						
DISTRIBUTION: WHITE - Stays with the Samples; CANARY - Returned to Client with Report; PINK - Field Copy									Ī	TA	L-8274-5	30 (0210)														

Client: URS Corporation

Job Number: 580-50674-1

Login Number: 50674 List Source: TestAmerica Seattle

List Number: 1

Creator: Gonzales, Steve

Creator: Gonzales, Steve		
Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>N/A</td> <td></td>	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

APPENDIX E

Data Quality Review Report



AECOM 111 SW Columbia Street Suite 1500 Portland, OR 97201 www.aecom.com 503 222 7200 tel 503 222 4292 fax

Memorandum

То	James Flynn	Page 1
CC		
Subject	Data Quality Review – Former Crown Co	ork and Seal Facility
From	Jeni Garcia	
Date	July 9, 2015	

The data quality review of the four soil samples, five primary groundwater samples, one groundwater field duplicate sample, five sediment samples, one trip blank sample, three indoor air samples, and six sub-slab vapor samples collected between April 3, 2015 and June 10, 2015 at the Former Crown Cork and Seal Facility in Portland, Oregon has been completed. The samples were collected in accordance with the *Site Investigation Work Plan* (URS, 2015). The soil, sediment, and groundwater samples were submitted to TestAmerica (TA) Laboratories, Inc. of Seattle, Washington, and the indoor air and sub-slab vapor samples were submitted to Eurofins Air Toxics (Eurofins) in Folsom, California. The samples were analyzed from one or more of the following parameters in general accordance with the methods indicated in the table below.

Method	Analytical Parameter
NWTPH-Dx	#2 Diesel (Diesel) and Motor Oil
NWTPH-Gx	Gasoline
EPA 8260C	Volatile Organic Compounds (VOCs)
EPA 8270C SIM	Semivolatile Organic Compounds (SVOC) - Polycyclic Aromatic Hydrocarbons (PAHs)
EPA 8270D	SVOC – Phthalates
EPA 8082	Polychlorinated Biphenyls (PCBs)
EPA 6020/7471A	Total Metals: arsenic, barium, cadmium, chromium, copper, lead, nickel, selenium, silver, and mercury
EPA Modified TO-15	VOCs

The review included the analytical data presented in TA reports 580-48652-1, 580-49123-1, 580-49583-1 and 580-50674-1, and Eurofins reports 1505180 and 1504437. The data was reviewed based on *National Functional Guidelines (NFGs) for Superfund Organic Methods Data Review*, August, 2014, *National Functional Guidelines for Inorganic Superfund Data*

Review, August 2014, and laboratory quality control criteria. Items reviewed included: chain-of-custody (COC) records, sample condition, hold times, surrogate recoveries, laboratory control and laboratory control duplicate results, field duplicate results, and method blank results. Qualifiers assigned as a result of the review are discussed below and presented in Table 1.

The following criteria were evaluated during the review:

• <u>COC Records</u> – Acceptable with the following exceptions:

Samples for MW-3 DUP (580-49123-2) and Trip Blank (580-49123-9) were not listed on the COC; however, sample containers were received by the laboratory. The laboratory notified the AECOM project manager and the samples were added to the COC.

- <u>Temperature</u> Acceptable
- <u>Preservation</u> Acceptable
- <u>Hold Times</u> Acceptable with the following exceptions:

<u>SVOCs-Phthalates by EPA Method 8270D</u> – Sample MW-2 (580-49123-6 - RE) was reextracted and re-analyzed outside hold time due to LCS failure (see LCS/LCSD section below). The original sample results were reported and sample MW-2 (580-49123-6 - RE) was rejected and flagged 'R' in Table 1.

- Trip Blanks Acceptable
- Method Blanks Acceptable with the following exceptions:

SVOCs-Phthalates by EPA Method 8270D – Bis(2-ethylhexyl)phthalate (0.294 milligrams per kilogram [mg/kg]) was detected in the method blank in analysis batch 186536, diethyl phthalate (0.118 mg/kg and 0.151 μ g/L) was detected in the method blank at in analysis batch 187679 and 188212, respecitvley, and butyl benzyl phthalate (0.0764 mg/kg) was detected in the method blank in analysis batch 192701. The associated sample concentrations were greater than 10 times (10X) the blank concentrations or non-detect, therefore; no qualification was necessary.

1,2,4-Trimethylbenzene was detected in the method blank in analytical batch 187604 at 0.0940 micrograms per liter (μ g/L). The associated sample results detected between the method detection limit (MDL) and method reporting limt (MRL) were qualified as estimated and flagged 'U' at the MRL.

<u>Gasoline by NWTPH-Gx</u> – Gasoline was detected in the method blank associated with analysis batch 186483 at 0.813 mg/kg. The associated sample results were 10X the method blank concentration or previously qualified as estimated; no further qualification was necessary.

<u>VOCs by EPA Method 8260B</u> – Methylene chloride (0.480 μg/L) was detected in the method blank associated with analysis batch 188017, toluene (0.00295 μg/L) was detected in the method blank associated with analysis batch 187992, and 1,2,3-trichlorobenzene (0.0107 mg/kg), methylene chloride (0.0181 mg/kg), naphthalene (0.0103 mg/kg), and toluene (0.00296 mg/kg) were detected in the method blank associated with analysis batch 192769. The associated detected sample results were qualified as non-detect and flagged 'U' at the MRL, or the detected concentration, whichever is higher. As the potential bias is high, no qualification is necessary for associated non-detect sample results.

• <u>Surrogates</u> – Acceptable with the following exceptions:

Gasoline by NWTPH-Gx – The 4-bromofluorobenzene surrogate recovery was above the laboratory limits of 150% in sample HDW-3A-9 (580-48652-1) (525%) and HDW-3A-16 (580-48652-2) (161%), with the indication of matrix interference present. Since the potential sample bias is high, associated detected results were qualified as estimated and flagged 'J'.

• <u>Laboratory Control Samples (LCS/LCSD)</u> – Acceptable with the following exceptions:

<u>VOCs by EPA Method 8260B</u> – The LCS/LCSD relative percent difference (RPD) for trichlorofluoromethane was above the laboratory limit of 20% at 27% in analytical batch 187604. Since the LCS/LSCD recoveries were within laboratory limits and all associated sample results were non-detect, no qualification was necessary.

SVOCs-Phthalates by EPA Method 8270D – The LCS recovery for bis(2-ethylhexyl) phthalate (217%) reported in batch 187816 was above the laboratory limit of 185% and the RPD was above the laboratory limit of 20% at 55%. Since the potential bias is high associated sample results that are non-detect or reported as estimated between the MDL and MRL do not require further qualification. However, sample MW-2 (580-49123-6) was reported above the MRL at 6.4 μg/L in analysis batch 187816. The laboratory reextracted and re-analyzed sample MW-2 (580-49123-6-RE) outside of hold and reported both sets of data. The original sample result was qualified as estimated and flagged 'J' to account for the potential high bias due to LCS recoveries issues in batch 187816; the sample results for the reanalysis of MW-2 (580-49123-6-RE) was rejected 'R'.

<u>SVOCs-PAHs</u> by <u>EPA Method 8270D SIM</u> – The LCSD recovery for phenanthrene reported in batch 189161 was below the lower laboratory control limit of 73% at 72% and the laboratory noted this recovery was not indicative of a systematic control problem due to the marginal exceedance. The laboratory qualified the associated result '*'. The associated result was qualified as estimated and flagged 'J' to account for the potential low bias.

VOCs by EPA Modified TO-15 – The LCS/LCSD recoveries for acetone (68%/62%) and carbon disulfide (62%/59%) in file name e051203/e051204 (1505180-09A/AA), acetone (60%/62%), carbon disulfide (59%/60%), 3-chloropropene (66%/67%), and methylene chloride (68%/--) in file name e051303/e051304 (1505180-09C/CC), carbon tetrachloride (140%/135%) in file name 20051403/20051404 (1505180-09E/EE), acetone (--/66%) and carbon disulfide (67%/65%) in file name e042803/e042804 (1504437-06A/AA), and ethanol (132%) in file name v042904 (1504437-06CC) were outside the laboratory acceptance limits of 70-130%. The laboratory provided run logs on 06/09/2015 to identify associated samples. Associated sample results which were qualified as estimated and flagged 'UJ/J' to account for the potential bias. Sample results that were previously qualified as estimated by the laboratory or results that were non-detect when the potential bias was high were not qualified.

• <u>Matrix Spike/Matrix Spike Duplicate (MS/MSD)</u> – Acceptable with the following exceptions:

<u>VOCs by 8260C</u> – The MSD recovery for 1,2-dichlorobenzene was above the upper control limit of 120% at 121% in batch 186928. The LCS recovery was in control indicating the analytical batch was in control and the parent sample result was non-detect, therefore; no qualification was necessary.

<u>SVOCs-PAHs</u> by <u>EPA Method 8270D SIM</u> – The MS recoveries for phenanthrene (70%) and chrysene (73%) were below the laboratory limits of 73% and 75% respectively, in analytical batch 187673. The LCS/LCSD recoveries were in control indicating the analytical batch was in control, therefore; only the parent sample OF-2 Overflow Catch Basin (580-49123-7) was qualified as estimated and flagged 'J'.

- <u>Field Duplicate</u> Sample MW-3 DUP (580-49123-2) was submitted as a field duplicate of sample MW-3 (580-49123-1). Relative percent difference (RPD) calculations were performed on the field duplicate sample pair results when the sample results were greater than five times the method reporting limit. All RPDs for duplicate pairs were within the historical project control limit of 20%.
- Reporting Limits Reporting limits in a few instances were elevated due to the dilutions required for concentration or sample matrix, no qualifications of the data is necessary.
- Laboratory Notes and Qualifiers –

TA noted the minimum response factor criteria (RF) for the continuing calibration verification (CCV) analyzed in batches 186928, 187110, and 187992 was outside criteria for acetone, 2-butanone (MEK) and vinyl chloride, and acetone and MEK in batch 192769. In addition, RF for the CCV in 187992 was outside criteria for 2-hexanone, 4-methyl-2-pentanone (MIBK), and chloroethane in batch 187992. Sample analysis proceeded per the analytical method however the samples results are considered

estimated. The associated results that were not previously qualified for detections between the MDL and MRL were qualified as estimated and flagged 'UJ' or 'J'.

The CCV associated with batches 188017, 187816 and 188855 recovered above the upper control limit for vinyl chloride, butyl benzyl phthalate, and styrene, respectively. In all cases the laboratory noted that the associated sample results were non-detect; therefore, the data was reported. No qualification was necessary.

The continuing calibration blank (CCB) for batch 187110 contained methylene chloride above the MDL but below the MRL. Associated sample results were greater than the MRL or below the MDL, therefore; no qualification was necessary.

TA commented that samples HDW-3A -9 (580-48652-1), HDW-3A -16 (580-48652-2), OF-2 Overflow Catch Basin (580-49123-7), OF-4 (580-50674-1), and OF-3 (580-50674-2) contained a hydrocarbon pattern in the diesel range; however the elution pattern was a mixture of hydrocarbon patterns that elute both earlier and/or later then the typical fuel pattern used for qualitative purposes. In addition, the laboratory noted the peak profile present in sample Rail Spur Sump (580-49583-1) was atypical of a hydrocarbon pattern and consisted of 5-6 discrete peaks in the diesel (C10-C24) and motor oil (C24-C36) ranges. The laboratory flagged the results 'Y' or 'Z'. These comments are available in TA reports. None of the diesel results were qualified based on TA comments.

TA observed that sample HDW-3A-9 (580-48652-1) was very moist and the sample had a strong organic odor; this comment is available in the laboratory report.

Eurofins noted the acetone results for samples CDR-8hr (1505180-01A), CMR-8hr (1505180-02A), Plate Storage-8hr (1505180-03A), SSVP-1 (1505180-04A), and SSVP-1 (1504437-01A) were estimated due to bias in the CCV and flagged these results 'Jo'. In addition, the ethanol result for sample SSVP-1 (1504437-01A) was qualified 'UJ' by the laboratory due to a low bias in the CCV and/or LCS. Only the 'J' and 'UJ' flag was retained to remain consistent with project qualifiers.

Samples OF-4 (580-50674-1) and OF-3 (580-50674-2) were reanalyzed for tetrachloroethene due to a potential high bias reported by the laboratory during the initial analysis. The laboratory reported the results from the reanalysis; no qualification is necessary.

The internal standard responses for benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, dibenz(a,h)anthracene, and benzo(g,h,i)perylene in sample OF-4 (580-50674-1) were outside laboratory control limits. The sample was re-

analyzed with concurring results and the original results were reported. The laboratory flagged the results '*'. The laboratory '*' flag was replaced by a 'J' flag to remain consistent with project qualifiers and included in Table 1.

Overall Assessment of Data

The completeness of the analytical reports for this sampling event is 100%. Some data were qualified as non-detect 'U', and some data as estimated and flagged 'J' or 'UJ'. The usefulness of the data is based on the EPA guidance documents referenced in the introduction of this report. Upon consideration of the information presented above, the data are considered usable. The data qualifiers assigned by the laboratory are shown on the laboratory reports.

Data Qualifier Definitions

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria.
- DNR Do Not Report. Another result is available that is more reliable.

References

- EPAa, 2014. National Functional Guidelines for Superfund Organic Methods Data Review. August 2014.
- EPAb, 2014. National Functional Guidelines for Inorganic Superfund Data Review. August 2014.
- URS, 2015. Site Investigation Work Plan, Former Crown Cork and Seal Facilty. February 20, 2015.

Table 1 Sample Qualification Summary

Client Sample ID	Laboratory Sample ID	Analyte	Qualifier	Rationale		
		Gasoline	J	Surrogate recovery		
HDW-3A-9	580-48652-1	2-Butanone (MEK)	111			
		Vinyl chloride	UJ	CCV RF		
		Gasoline	J	Surrogate recovery		
HDW-3A-	500 40650 0	Acetone				
16	580-48652-2	2-Butanone (MEK)				
		Vinyl chloride	1			
HDW 2D		Acetone	1			
HDW-3B - 12	580-48652-3	2-Butanone (MEK)	UJ	CCV RF		
12		Vinyl chloride				
HDW 2D		Acetone	1			
HDW-3B -	580-48652-4	2-Butanone (MEK)				
18		Vinyl chloride				
NAXV 2	500 40100 1	1,2,4-Trimethylbenzene	0.20 U			
MW-3	580-49123-1	Methylene chloride	0.50 U			
MW 2 DUD	500 40102 0	1,2,4-Trimethylbenzene	0.20 U			
MW-3 DUP	580-49123-2	Methylene chloride	0.50 U	1		
N 4337 E	580-49123-3	1,2,4-Trimethylbenzene	0.20 U			
MW-5		Methylene chloride	0.50 U	N		
3.6337.4	590 40122 4	1,2,4-Trimethylbenzene	0.20 U	Method blank		
MW-4	580-49123-4	Methylene chloride	0.50 U			
N #XX 7 1	500 40100 5	1,2,4-Trimethylbenzene	0.20 U			
MW-1	580-49123-5	Methylene chloride	0.50 U			
		1,2,4-Trimethylbenzene	0.20 U			
	580-49123-6	Methylene chloride	0.50 U			
MW-2		bis(2-ethylhexyl) phthalate		LCS recovery		
	580-49123-6 - RE	All Phthalates	R	Hold time		
		Phenanthrene	т	MC		
		Chrysene	J	MS recovery		
OF 2		Acetone				
OF-2	500 40100 5	2-Butanone				
Overflow	580-49123-7	Vinyl chloride	7.77	CCVDE		
Catch Basin		2-Hexanone	UJ	CCV RF		
		4-Methyl-2-pentanone (MIBK)	7			
		Chloroethane	7			
T.: D1 1	500 40100 0	1,2,4-Trimethylbenzene	0.20 U	M-4111-1		
Trip Blank	580-49123-9	Methylene chloride	4.7 U	Method blank		
Rail Spur Sump	580-49583-1	Phenanthrene	J	LCS/LCSD		
CDR-8hr 1505180-01A		Carbon disulfide	UJ	recovery		

CMR-8hr	1505180-02A					
Plate Storage-8hr	1505180-03A	Carbon disulfide				
		Carbon disulfide	UJ			
SSVP-1	1505180-04A	3-Chloropropene				
		Methylene Chloride				
SSVP-1	1504437-01A	Carbon disulfide				
SSVP-3	1504437-03	Ethanol	J			
		1,2,3-Trichlorobenzene	0.042 U			
		Methylene Chloride	0.027 U	M-411-11-		
OF-4		Naphthalene 0.042 U Toluene 0.042 U		Method blank		
		2-Butanone	UJ	CCV RF		
	580-50374-1	Acetone	J	CC V KI		
OI'-4		Benzo[b]fluoranthene				
		Benzo[k]fluoranthene				
		Benzo[a]pyrene Indeno[1,2,3-cd]pyrene J		Internal standard		
				iliterilai stalluaru		
		Dibenz(a,h)anthracene				
		Benzo[g,h,i]perylene				
OF-3		Methylene Chloride	0.030 U			
	580-50374-1	Naphthalene	0.063 U	Method blank		
OF-3	360-30374-1	Toluene	0.049 U			
		2-Butanone	UJ	CCV RF		

APPENDIX F

Knee Chart Plots

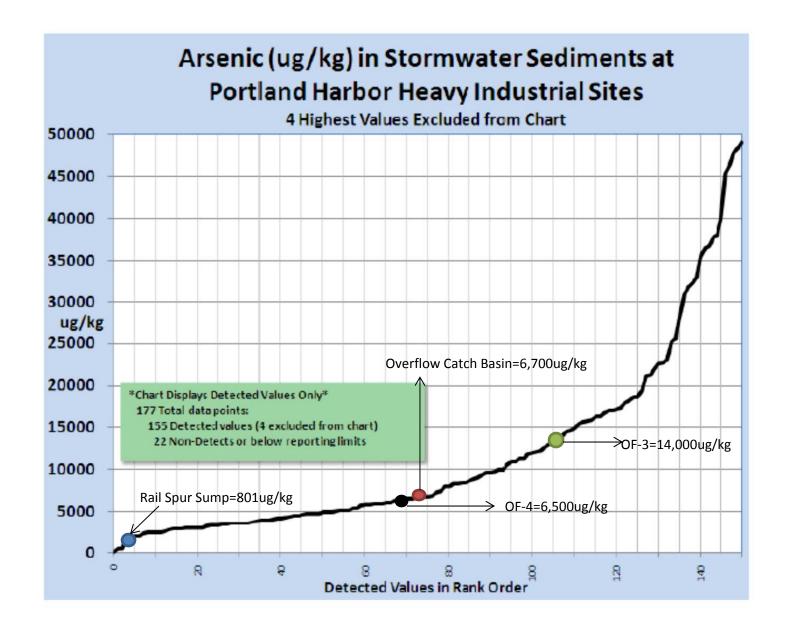


Chart Source: Guidance for Evaluating the Stormwater Pathway at Upland Sites, Appendix E, DEQ 2010

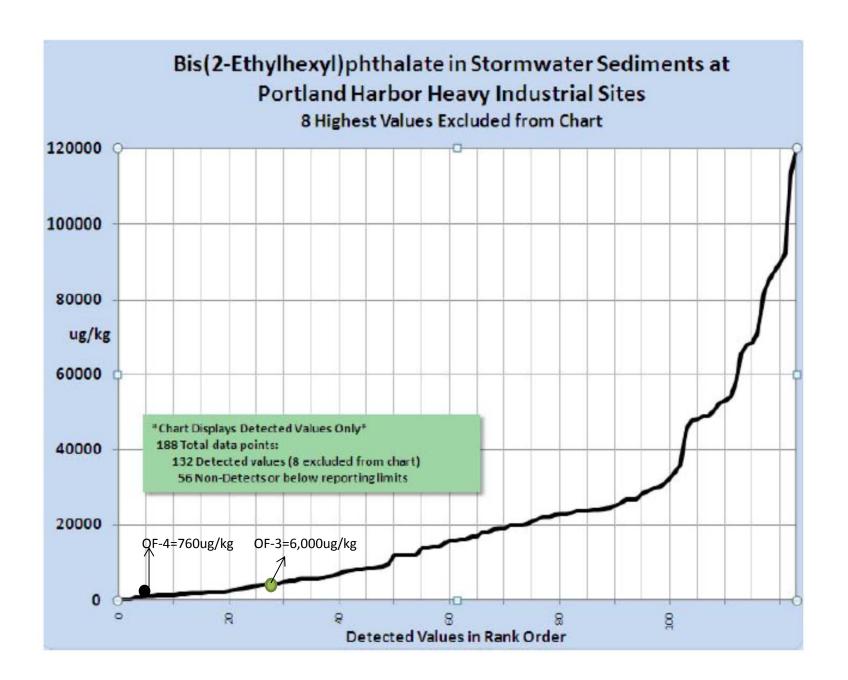
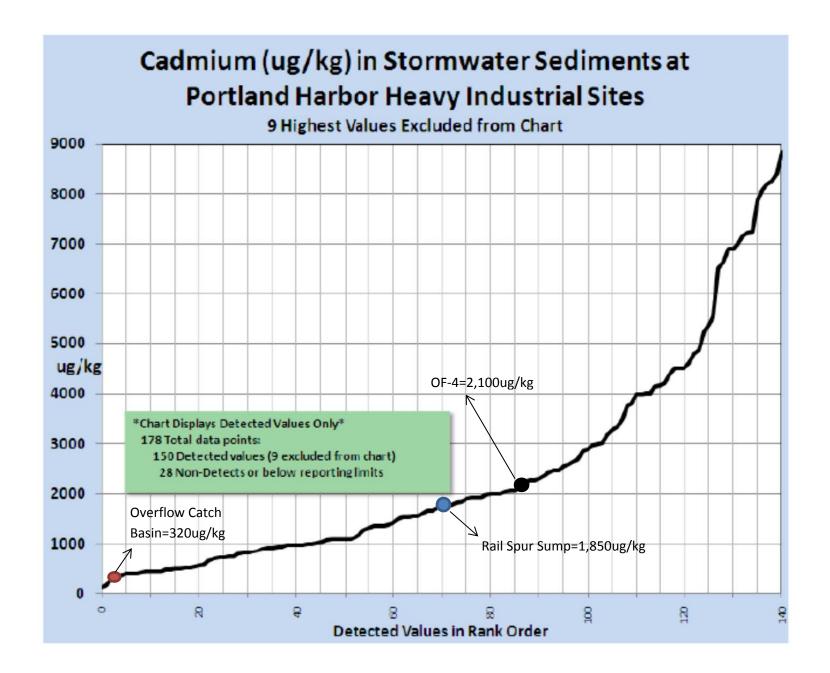
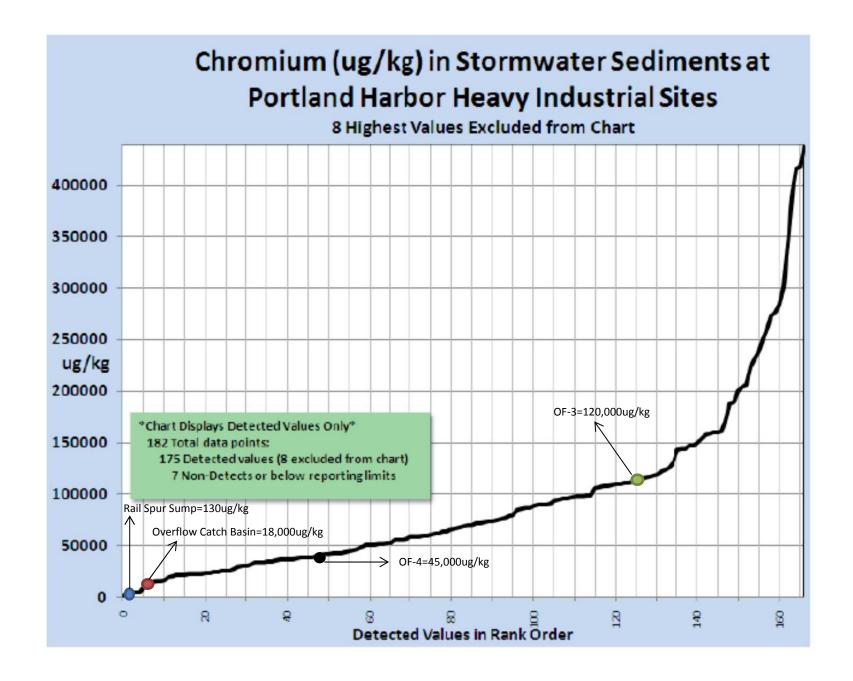
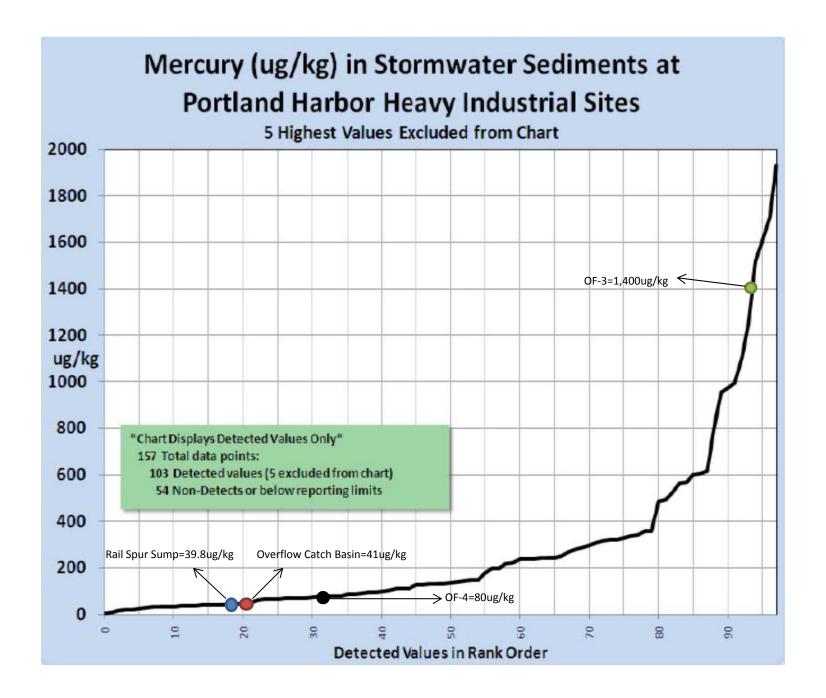
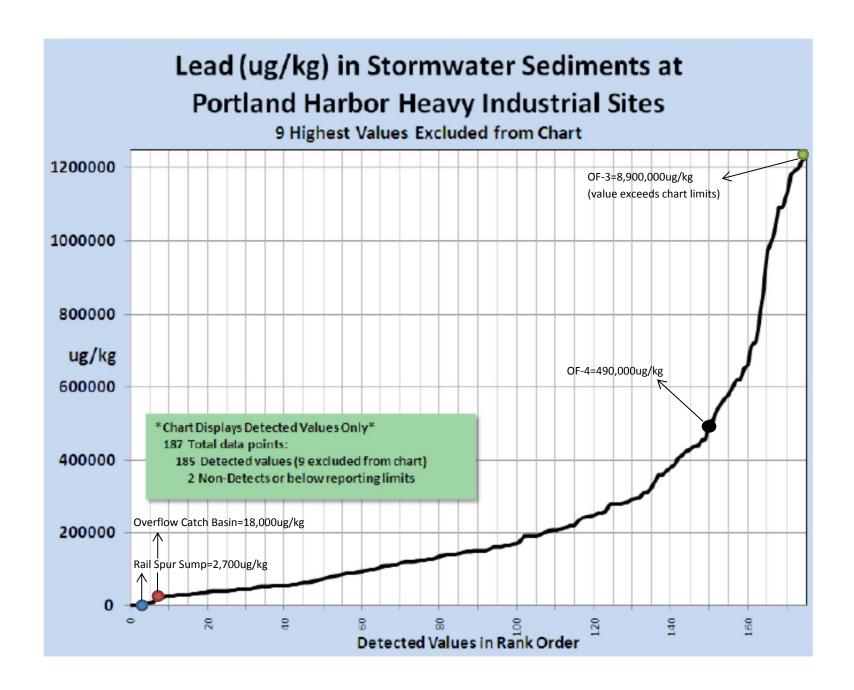


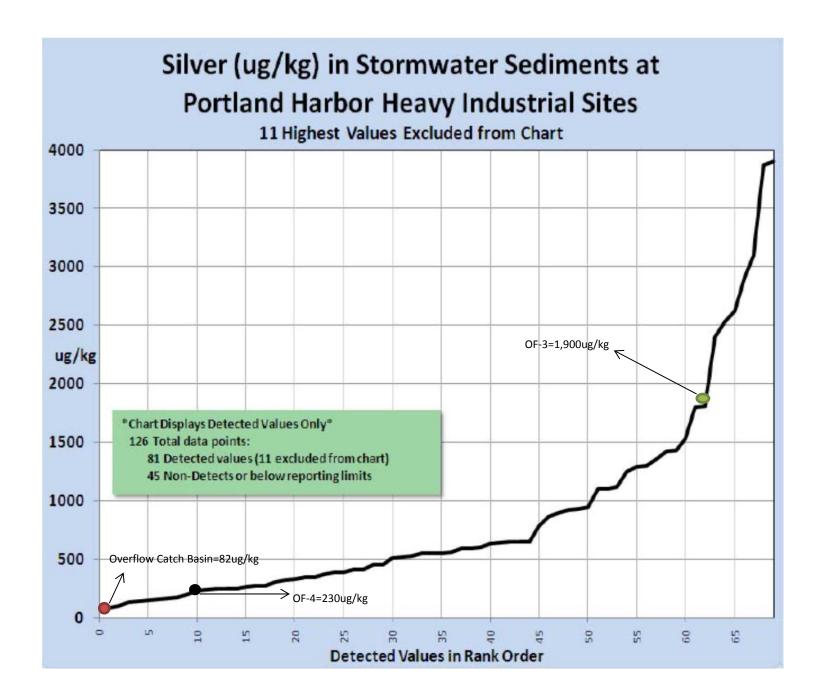
Chart Source: Guidance for Evaluating the Stormwater Pathway at Upland Sites, Appendix E, DEQ 2010











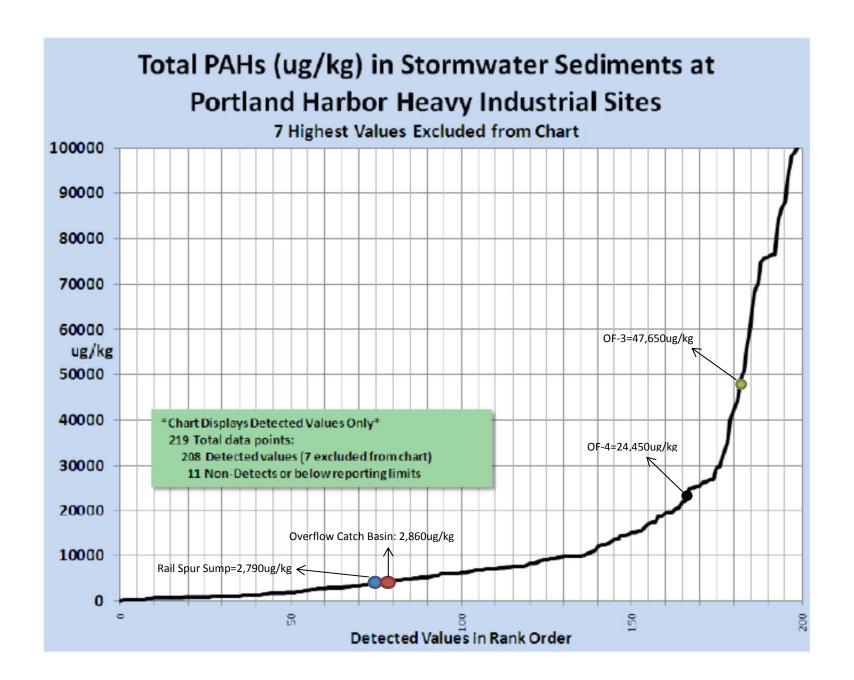
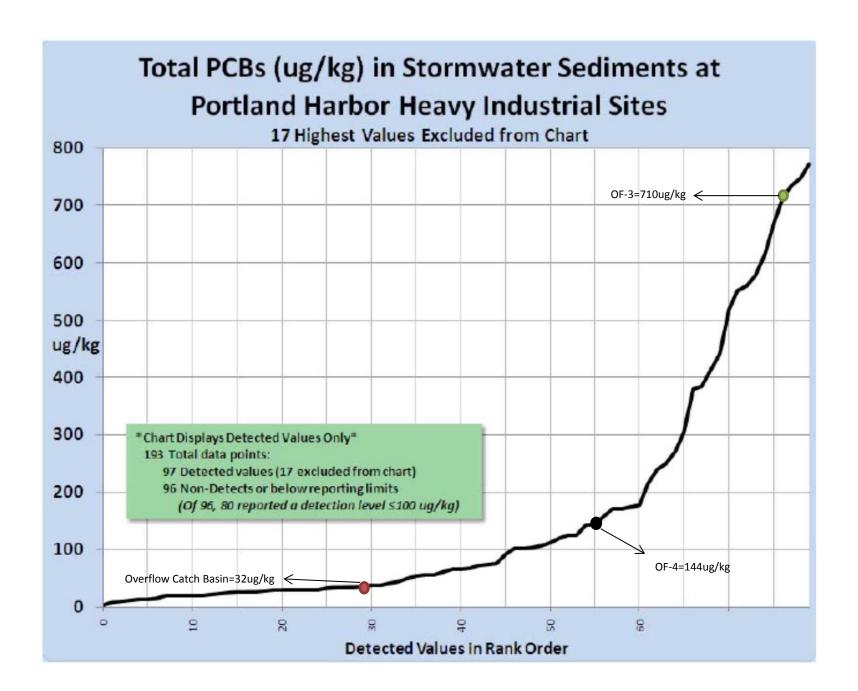


Chart Source: Guidance for Evaluating the Stormwater Pathway at Upland Sites, Appendix E, DEQ 2010



Total PCBs as Aroclors in Mecox Sediment Samples Compared to Portland Harbor Industrial Stormwater Concentrations

Detected concentrations only included in totals. PCBs detected in three of four samples; Rail Spur Sump was Non-Detect.

Chart Source: Guidance for Evaluating the Stormwater Pathway at Upland Sites, Appendix E, DEQ 2010

APPENDIX G

Groundwater Concentration Trend Charts

Figure G-1 Groundwater Concentration Trend Plot for MW-1 Crown Cork and Seal Portland, Oregon

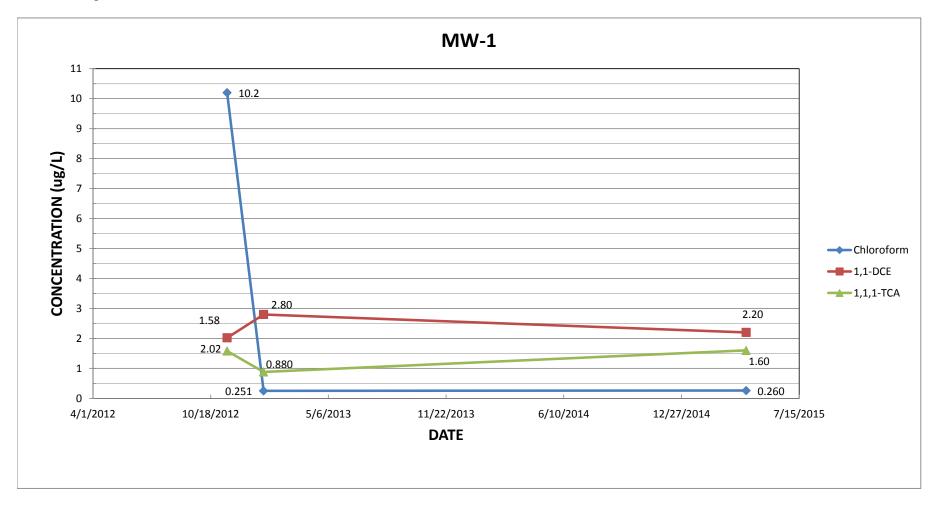


Figure G-2 Groundwater Concentration Trend Plot for MW-2 Crown Cork and Seal Portland, Oregon

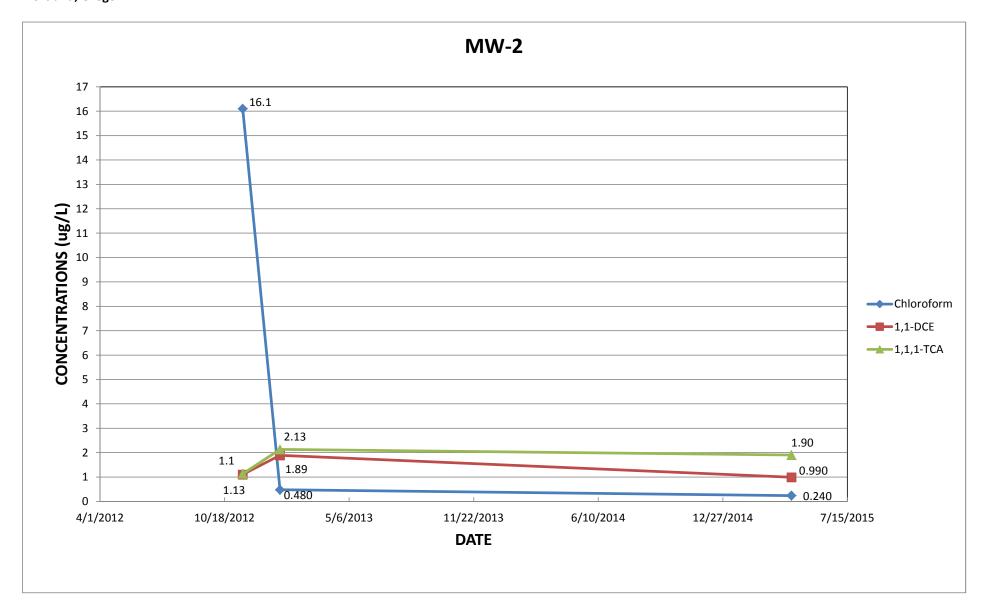


Figure G-3
Groundwater Concentration Trend Plot for MW-3
Crown Cork and Seal
Portland, Oregon

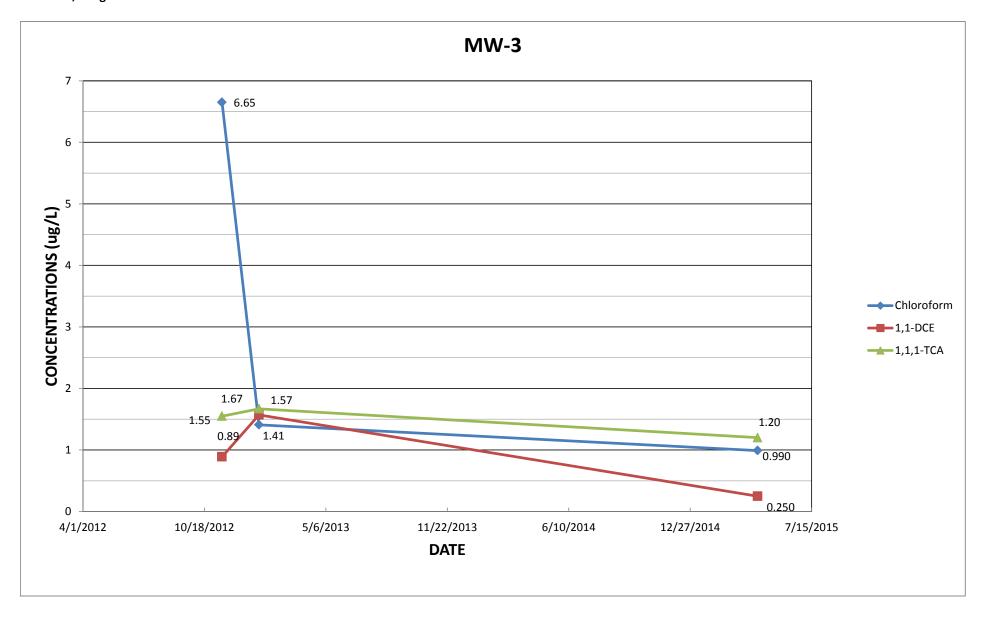


Figure G-4
Groundwater Concentration Trend Plot for MW-4
Crown Cork and Seal
Portland, Oregon

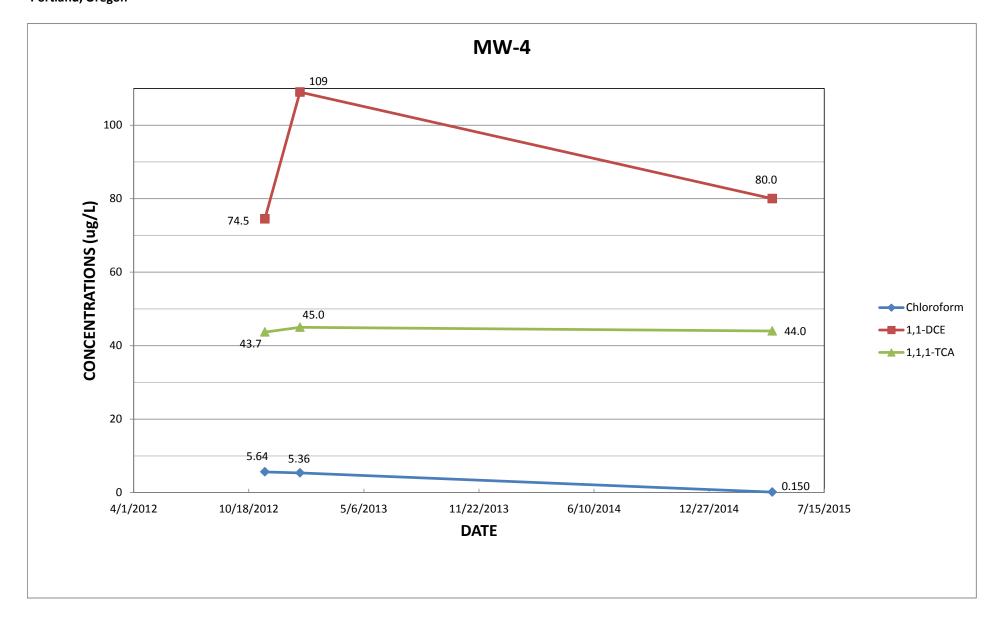


Figure G-5
Groundwater Concentration Trend Plot for MW-5
Crown Cork and Seal
Portland, Oregon

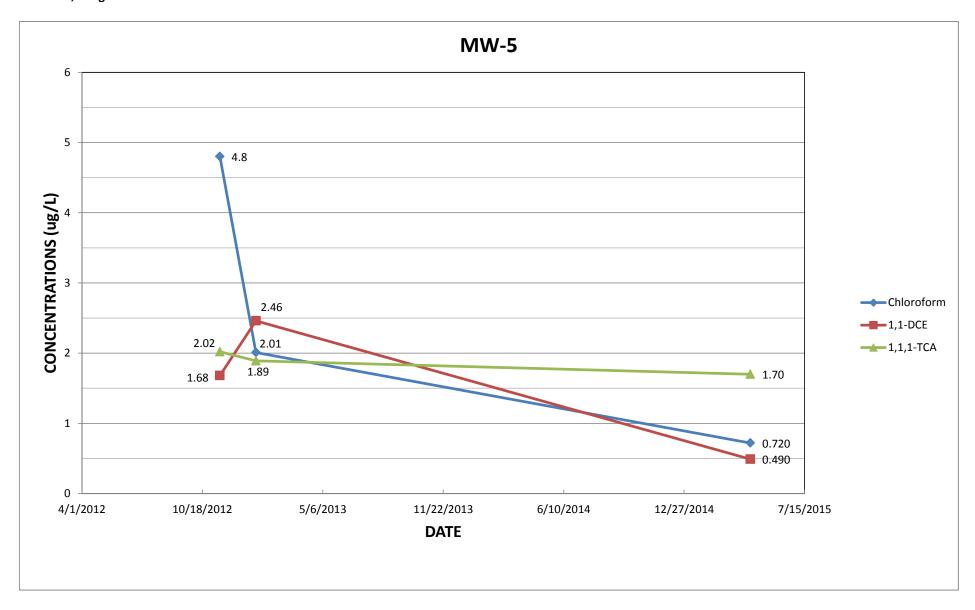


Table G-1
Summary of Groundwater Analytical Results for VOCs (ug/L)
Crown Cork and Seal
Portland, Oregon

				,	Volatile O	ganic Compo	unds			
Sample ID	Sample Date	Carbon Tetrachloride	Chloroform	1,1-DCA	1,1-DCE	cis-1,2-DCE	PCE	1,1,1-TCA	1,1,2-TCA	TCE
MW-1	11/15/2012	1.0 U	10.2	1.01	2.02	0.5 U	0.5 U	1.58	0.5 U	0.5 U
	1/16/2013	1.0 U	0.251	1.54	2.80	0.5 U	0.5 U	0.880	0.5 U	0.0321 J
	4/16/2015	0.0250 U	0.260	1.70	2.20	0.0680 J	0.210 J	1.60	0.0250 U	0.0460 J
MW-2	11/16/2012	1.0 U	16.1	0.5 U	1.1	0.5 U	0.5 U	1.13	0.5 U	0.5 U
	1/15/2013	1.0 U	0.480	0.920	1.89	0.5 U	0.5 U	2.13	0.5 U	0.0346 J
	4/16/2015	0.0250 U	0.240	0.830	0.990	0.630 J	0.540	1.90	0.0870 J	0.0640 J
MW-3	11/16/2012	1.0 U	6.65	0.5 U	0.89	0.5 U	0.5 U	1.55	0.5 U	0.5 U
	1/16/2013	1.0 U	1.41	0.5 U	1.57	0.5 U	0.5 U	1.67	0.5 U	0.0400 U
	4/17/2015	0.0250 U	0.990	0.420	0.250	0.0250 U	0.160	1.20	0.0250 U	0.0250 U
MW-4	11/15/2012	1.0 U	5.64	0.8	74.5	0.5 U	0.5 U	43.7	0.5 U	0.5 U
	1/15/2013	1.0 U	5.36	1.37	109	0.5 U	0.5 U	45.0	0.5 U	0.191
	4/16/2015	0.0980 J	0.150	0.890	80.0	0.0250 U	0.0700 U	44.0	0.0690 J	0.300
MW-5	11/16/2012	1.0 U	4.8	0.5 U	1.68	0.5 U	0.5 U	2.02	0.5 U	0.5 U
	1/15/2013	1.0 U	2.01	0.44	2.46	0.5 U	0.5 U	1.89	0.5 U	0.0204 J
	4/16/2015	0.0250 U	0.720	0.270	0.490	0.0250 U	0.0700 U	1.70	0.0540 J	0.0340 J

Notes

Only VOCs detected above the laboratory reporting limit are presented in this table.

J -estimated value

ug/L - microgram per liter

PCE - tetrachloroethene

TCE - trichloroethene

1,1-DCA - 1,1-Dichloroethane

1,1-DCE - 1,1-Dichloroethene

cis-1,2-DCE - cis-1,2-Dichloroethene

1,1,1-TCA - 1,1,1-Trichloroethane

1,1,2-TCA - a,1,2-Trichloroethane

U - Compound was analyzed for but not detected above the reporting limit shown.

VOC - volatile organic compound

Bold values indicate the chemical was detected above the laboratory reporting limit.

APPENDIX H BIOCHLOR/BIOSCREEN Model Results

MODELING APPROACH

Chemical transport modeling was completed using both the Microsoft Excel-based BIOCHLOR (U.S. EPA, 2002) and BIOSCREEN (U.S. EPA, 1997) two-dimensional advective transport programs. Both models simulate remediation through natural attenuation using the Domenico analytical solution. The models have the ability to simulate advection, dispersion, adsorption, and aerobic decay, as well as anaerobic reactions that have been shown to be the dominant biodegradation processes. For the purposes of the site modeling, no decay was used. The model simulates transport using advection and dispersion, and simulations with and without adsorption. The resulting model output consists of chemical concentrations along a plume centerline versus distance from the input concentration.

The purpose of the modeling was to assess whether chemical concentrations detected in groundwater at the site could result in exceedances of screening criteria in the vicinity of the Willamette River. Chemical constituents detected in groundwater samples collected from monitoring wells at the site exceeding the screening levels include:

- Arsenic (total)
- bis-2-ethylhexyl phthalate (BEHP)
- Benzo(a)anthracene
- Chrysene
- Tetrachlorotethene (PCE)
- 1,1-Dichloroethene (1,1–DCE)

MODEL INPUT AND ASSUMPTIONS

The model input included site-specific data and typical published literature values. BIOSCREEN was used for arsenic, BEHP, and the polyaromatic hydrocarbons (PAHs). BIOCHLOR was used for the chlorinated solvents (PCE and 1,1-DCE) although since biodegradation was not included the advective transport analytical solution was the same for both programs.

Boring logs from existing site monitoring wells MW-1 through MW-5 were reviewed to estimate the hydraulic conductivity value based on the lithology within the saturated water-bearing zone identified during drilling. The hydraulic conductivity and effective porosity were based on primarily coarse sand with gravel. For a more conservative model scenario, the conductivity value was increased by one order of magnitude.

Depth to groundwater is approximately 85 feet below ground surface or an approximate surface elevation of 10.3 feet above mean sea level. Two different values were used for the hydraulic gradient calculation. The less conservative hydraulic gradient of 0.0003 feet per foot was based on the groundwater elevations from the five on-site monitoring wells in April 2015. Groundwater elevations in April 2015 indicate the groundwater flow direction is to the northwest which is parallel and towards the Willamette River located approximately 1,800 feet downgradient. A more conservative model scenario with a hydraulic gradient of 0.0024 feet per foot was based on the groundwater elevations at the site

and a river elevation of 6 feet recorded up river at the USGS Morrison River gauge. Input parameters are as follows:

- Hydraulic Conductivity = 0.03 centimeters per second (cm/s) and 0.3 cm/s (conservative) (Chin, 2000)
- Hydraulic Gradient = 0.0003 feet/feet and 0.0024 (conservative)
- Effective Porosity = 0.30 (Chin, 2000)
- Calculated Seepage Velocity = 31 feet per year and 2,483 feet per year (conservative)

An estimated dispersion term and adsorption were included in the model. Site dispersion can affect the "shape" of the plume primarily in the longitudinal direction (i.e., length) with the traverse and vertical extent an order of magnitude less. For the conservative model simulation, the soil organic carbon water partitioning coefficient (Koc) (Table 1; New Jersey Department of Environmental Protection) and fraction of organic carbon (foc) of 0.05 percent (U.S. EPA, 1996) was used to calculate the chemical-specific retardation factor which is an indicator of whether a chemical is likely to adsorb to carbon / colloidal particles within the aquifer matrix. The model assumes a transport time duration of 20 years which is considered reasonable for a site with no apparent ongoing sources and relatively stable contaminant concentrations in groundwater. In the absence of ongoing sources, concentrations at the site would be expected to decline over the next 20 years. The model assumes that the concentrations remain the same on the site (infinite mass) throughout the simulation period.

The groundwater flow direction and magnitude of the hydraulic gradient at the site is variable. In April 2015, groundwater elevations in the onsite wells indicate flow to the northwest. During previous monitoring events, the gradient was very flat and the flow direction could not be estimated. The topography suggests that a hydraulic divide along the ridge line may exist.

Chemical concentrations used for the model input were results from the April 2015 groundwater sampling event and presented in Table 2.

MODEL RESULTS

The model simulations were run with and without adsorption to estimate concentrations at a point 1,800 feet from the site which is the distance from MW-4 to the closest discharge point at the Willamette River. The foc value used in the model was conservative at 25% of the published typical foc value of 0.2%. The model is not direction specific; therefore the transport result will apply to any offsite flow direction.

The model output concentrations were compared to the following screening values: the Portland Harbor specific fish consumption rate, or Portland Harbor Preliminary Remediation Goals (PRG). These screening level values are also included in Table 2 referenced above.

The longest model estimated transport distance reached before declining below the screening concentration was 1,000 feet for arsenic assuming the less conservative and relatively flat hydraulic

gradient from the site wells (April 2015) and no adsorption. The results indicated no exceedances at the river or any other discharge point 1,800 feet from MW-4.

The conservative model simulation which included the increased hydraulic gradient to the river, increased hydraulic conductivity, and adsorption based on 25% of the published foc value reduced the transport distance to 320 feet or less for all the constituents except for arsenic at 1,020 feet. The model simulation showed detectable concentrations for PCE and 1,1-DCE at 1,800 feet (i.e., approximate distance to the Willamette River). The estimated concentrations for PCE, and 1,1-DCE were at least an order of magnitude below the screening values. The modeling summary results are presented in Table 1.

CONCLUSIONS

The westernmost portion of the site is located approximately 1,800 feet from the Willamette River. Based on the conservative modeling without adsorption using BIOCHLOR and BIOSCREEN, chemical concentrations decrease to below screening levels between 100 and 900 feet downgradient from MW-4. The more conservative simulation resulted with non-detect concentrations at the river with the exception of PCE and 1,1-DCE. Estimated concentrations for PCE, and 1,1-DCE were 0.002 micrograms per liter (μ g/L) and 0.253 μ g/L, respectively, which are at least an order of magnitude below the screening values. Therefore, transport of constituents detected in groundwater at the site does not appear to have a potential for any significant impact to the Willamette River.

REFERENCES

Chin David A., 2000. Water Resource Engineering Hydraulic conductivity, effective porosity

New Jersey Department of Environmental Protection (NDEP), Chemical Properties for Calculation of Impact to Ground Water Soil Remediation Standards

- U.S. EPA, 1996. Soil Screening Guidance: User's Guide. EPA/540/R-96/018. April.
- U.S. EPA, 1997. BIOSCREEN, http://www2.epa.gov/water-research/bioscreen-natural-attenuation-decision-support-system. July.
- U.S. EPA, 2002. BIOCHLOR, http://www2.epa.gov/water-research/biochlor-natural-attenuation-decision-support-system. June.

Table 1 Contaminant Transport Modeling Summary Crown Cork and Seal Portland, Oregon

	Arsenic	ВЕНР	Benzo(a)anthracene	Chrysene	PCE	1,1-DCE
Base Case						
Input concentration (ug/L) and MW-ID	3.50 MW-4	6.40 MW-2	0.00930 MW-1	0.0160 MW-1	0.540 MW-2	80.0 MW-4
Screening value (ug/L)	0.014 (1)	0.22 (1)	0.001 (2)	0.001 (2)	0.20 (2)	7 (2)
Modeled distance (ft.) from MW- 4 to where concentration is below screening (No Adsorption)	1,000	820	720	800	100	180
Modeled Concentration at Willamette River (ug/L) No Adsorption	0	0	0	0	0	0
Conservative with Adsorption						
Koc (L/Kg) Value (4)	26,000	111,000	398,000	398,000	155	59
Modeled distance (ft.) from MW- 4 to where concentration is below screening with adsorption (3) and increased conductivity and gradient (5)	1,020	320	160	180	80	160
Modeled concentration at Willamette River (ug/L) with adsorption ⁽³⁾ and increased conductivity and gradient ⁽⁵⁾	0	0	0	0	0.002	0.253

Notes

(1)	Portland Harbor specific fish consumption rate (175 g/day)
(2)	Portland Harbor PRG (Migration of Contaminated Groundwater)

- (3) Retardation calculated using very conservative organic carbon (foc) of 0.05% vs. typical default value of 0.2% (U.S. EPA, 1996)
- (4) New Jersey Department of Environmental Protection, Chemical Properties for Calculation of impact to Ground Water
 - Soil Remediation Standards
- (5) Conductivity increased an order of magnitude from 0.03 cm/s to 0.3 cm/s; gradient increased from 0.0003 (site wells) to 0.0024 (site to River)

Model simulation time = 20 years

Hydraulic gradient of 0.0003 ft/ft (to northwest) based on April 2015 depth to water measurements

Hydraulic conductivity of 0.03 cm/sec. based on boring logs from MW-1 to MW-5 at the water bearing zone (Chin, 2000)

Willamette River is approximately 1,800 feet west of MW-4

μg/L = micrograms per liter

BEHP = bis-2-ethylhexyl phthalate

1,1-DCE = 1,1-Dichloroethene

PCE = Tetrachlorotethene

Table 2 Groundwater Sample Results Crown Cork and Seal Portland, Oregon

		Sample Resu	ılts (ug/L)						Portland Harbor PRG		DEQ RBCs (1)	,
Site ID	MW-1	MW-2	MW-3	MW-3 DUP	MW-4	MW-5		PH specific fish consumption rate ⁽⁴⁾	RAO 4	Volatilization to Outdoor Air	Vapor Intrusion into Buildings	Groundwater in Excavation
Sample Date	4/16/2015	4/16/2015	4/17/2015	4/17/2015	4/16/2015	4/16/2015	MCL ⁽⁴⁾	175 g/day consumption rate	Migration of Contaminated Groundwater	Occupational Worker	Occupational Worker	Construction & Excavation Worker
Metals												
Arsenic	1.90 J	1.80 J	1.40 U	1.40 U	3.50 J	2.30 J	10.0	0.014	0.020	-	-	5,800
Barium	45.0	28.0	39.0	38.0	19.0	25.0	-	-	-	-	-	25,000,000
Cadmium	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	0.140 U	5.0	-	-		-	57,000
Chromium	0.880 J	2.90	3.40	2.70	6.40	5.60	100	-	100		-	8,700
Lead	0.250 J	0.170 U	0.190 J	0.170 J	0.830 J	0.370 J	15.0	-	-		-	-
Mercury	0.0410 U	0.0410 U	0.0410 U	0.0410 U	0.0410 U	0.0410 U	0.0146	2.0	-	-	-	-
Selenium	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	1.50 U	50.0	420	-	-	-	-
Silver	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	0.150 U	100	-	-	-	-	1,000,000
Petroleum Hydrocarbons			*		-							
Gasoline Range	27.0 U	27.0 U	27.0 U	27.0 U	27.0 U	27.0 U	-	-	-		-	14,000
Diesel Range	38.0 J	14.0 U	19.0 J	17.0 J	14.0 U	14.0 U	-	-	-	-	-	-
Residual Range	24.0 J	23.0 J	13.0 J	13.0 J	17.0 J	20.0 J	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons (PAI	Hs)		*									
Acenaphthene	0.0310	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	0.20	99.0	-		-	- [
Acenaphthylene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	0.20	-	-	-	-	-
Anthracene	0.00950 J	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	0.20	4000	-	-	-	-
Benzo(a)anthracene	0.00930 J	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	0.20	0.0018	0.001	-	-	9.1
Benzo(a)pyrene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	0.20	0.0018	0.001	-	-	0.53
Benzo(b)fluoranthene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	0.20	0.0018	0.001		-	-
Benzo(g,h,i)perylene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	0.20	-	-		-	-
Benzo(k)fluoranthene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	0.20	0.0018	0.001	-	-	-
Chrysene	0.0160 J	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	0.20	0.0018	0.001	-	-	-
Dibenz(a,h)anthracene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	0.20	0.0018	0.001	-	-	0.21
Fluoranthene	0.300	0.0230	0.0160 J	0.0170 J	0.00580 U	0.00580 U	0.20	14.0	-	-	-	-
Fluorene	0.0480	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	0.20	530	-	-	-	-
Indeno(1,2,3-cd)pyrene	0.00570 U	0.00570 U	0.00600 U	0.00590 U	0.00580 U	0.00580 U	0.20	0.0018	0.001	-	-	-
Naphthalene	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.20	-	-	16,000	10,000	500
Phenanthrene	0.310	0.0120 J	0.0170 J	0.0170 J	0.00580 U	0.00580 U	0.20	-	-	-	-	-
Pyrene	0.160	0.0140 J	0.00960 J	0.0100 J	0.00580 U	0.00580 U	0.20	400	-	-	-	-
Polychlorinated Biphenyls (PCBs)			*		-							
Aroclor 1016	0.0430 U	0.0430 U	0.0470 U	0.0450 U	0.0430 U	0.0430 U	-	-	-		-	- [
Aroclor 1221	0.0590 U	0.0590 U	0.0640 U	0.0620 U	0.0590 U	0.0590 U	-	-	-	-	-	-
Aroclor 1232	0.0390 U	0.0390 U	0.0420 U	0.0410 U	0.0390 U	0.0390 U	-	-	-	-	-	-
Aroclor 1242	0.0390 U	0.0390 U	0.0420 U	0.0410 U	0.0390 U	0.0390 U	-	-	-	-	-	-
Aroclor 1248	0.0670 U	0.0680 U	0.0730 U	0.0710 U	0.0680 U	0.0670 U	-	-	-	-	-	-
Aroclor 1254	0.0420 U	0.0420 U	0.0460 U	0.0440 U	0.0420 U	0.0420 U	-	-	-	-	-	-
Aroclor 1260	0.0370 U	0.0370 U	0.0400 U	0.0390 U	0.0370 U	0.0370 U	-	-	-	-	-	-
Total PCBs	0.0670 U	0.0680 U	0.0730 U	0.0710 U	0.0680 U	0.0670 U	0.5	0.0000064	-	-	-	1.9

Table 2 Groundwater Sample Results Crown Cork and Seal Portland, Oregon

		Sample Resu	lts (ug/L)						Portland Harbor PRG		DEQ RBCs (1)	ı
Site ID	MW-1	MW-2	MW-3	MW-3 DUP	MW-4	MW-5		PH specific fish consumption rate ⁽⁴⁾	RAO 4	Volatilization to Outdoor Air	Vapor Intrusion into Buildings	Groundwater in Excavation
Sample Date	4/16/2015	4/16/2015	4/17/2015	4/17/2015	4/16/2015	4/16/2015	MCL ⁽⁴⁾	175 g/day consumption rate	Migration of Contaminated Groundwater	Occupational Worker	Occupational Worker	Construction & Excavation Worker
Volatile Organic Compounds (VOCs)												
1,1,1,2-Tetrachloroethane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	-	-	-
1,1,1-Trichloroethane (TCA)	1.60	1.90	1.20	1.30	44.0	1.70	200	-	-	-	-	1,100,000
1.1.2.2-Tetrachloroethane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	0.40	-		-	-
1,1,2-Trichloroethane	0.0250 U	0.0870 J	0.0250 U	0.0250 U	0.0690 J	0.0540 J	5.0	1.6	-	19,000	8,800	49.0
1,1-Dichloroethane	1.70	0.830	0.420	0.430	0.890	0.270	-	-	-	73,000	16,000	10,000
1,1-Dichloroethene	2.20	0.990	0.250	0.230	80.0	0.490	-	-	7	-	340,000	43,000
1,1-Dichloropropene	0.0150 U	0.0150 U	0.0150 U	0.0150 U	0.0150 U	0.0150 U	-	-	-	-	-	-
1,2,3-Trichlorobenzene	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	-	-	-		-	-
1,2,3-Trichloropropane	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	-	-	-	1	-	-
1,2,4-Trichlorobenzene	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	0.0400 U	70	7	-		-	-
1,2,4-Trimethylbenzene	0.2000 UJ	0.2000 UJ	0.2000 UJ	0.2000 UJ	0.2000 UJ	0.2000 UJ	-	-	-		-	1,700
1,2-Dibromo-3-chloropropane	0.440 U	0.440 U	0.440 U	0.440 U	0.440 U	0.440 U	-	-	-	-	-	-
1,2-Dibromoethane (EDB)	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	-	-	-
1,2-Dichlorobenzene	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	600	130	-	-	-	37,000
1,2-Dichloroethane (EDC)	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	5.0	3.70	-	9,500	3,800	630
1,2-Dichloropropane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	5.0	1.50	-	-	-	-
1,3,5-Trimethylbenzene	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	0.0830 U	-	-	-	•	-	23,000
1,3-Dichlorobenzene	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	-	96	-	-	-	-
1,3-Dichloropropane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	•	-	-
1,4-Dichlorobenzene	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	75.0	19.0	-	20,000	5,700	1,500
2,2-Dichloropropane	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	-	-	-	-	-	-
2-Chlorotoluene	0.0700 U	0.0700 U	0.0700 U	0.0700 U	0.0700 U	0.0700 U	-	-	-	-	-	-
4-Chlorotoluene	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	-	-	-	-	-	-
4-Isopropyltoluene	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	-	-	-	-	-	-
Benzene	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	5.0	5.1	0.4	14,000	2,800	1,700
Bromobenzene	0.0350 U	0.0350 U	0.0350 U	0.0350 U	0.0350 U	0.0350 U	-	-	-	-	-	-
Bromochloromethane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	-	-	-
Bromodichloromethane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	9,300	5600	450
Bromoform	0.0800 U	0.0800 U	0.0800 U	0.0800 U	0.0800 U	0.0800 U	-	14.0	-	1,100,000	1,100,000	14,000
Bromomethane	0.160 U	0.160 U	0.160 U	0.160 U	0.160 U	0.160 U	-	-	-	170,000	36,000	1,200
Carbon Tetrachloride	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0980 J	0.0250 U	5.0	0.16	-	5,400	790	1,700
Chlorobenzene	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	100	160	74	-	-	10,000
Chloroethane	0.0750 U	0.0750 U	0.0750 U	0.0750 U	0.0750 U	0.0750 U	-	-	-	-	-	2,400,000
Chloroform	0.260	0.240	0.990	1.00	0.150 J	0.720	-	47.0	-	5,500	1,200	720
Chloromethane	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	-	-	-	2,100,000	320,000	22,000
cis-1,2-Dichloroethene	0.0680 J	0.0630 J	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	0.4	-	-	24,000
cis-1,3-Dichloropropene (6)	0.0900 U	0.0900 U	0.0900 U	0.0900 U	0.0900 U	0.0900 U	-	-	-	-	-	-
Dibromochloromethane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	26,000	23,000	600
Dibromomethane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	-	-	-
Dichlorodifluoromethane	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	-	-	-	-	7.400	-
Ethylbenzene	0.0300 U	0.0300 U	0.0300 U	0.0300 U	0.0300 U	0.0300 U	700	210	160	41,000	7,400	4400
Hexachlorobutadiene	0.0750 U	0.0750 U	0.0750 U	0.0750 U	0.0750 U	0.0750 U	-	1.8	-	-	-	-
Isopropylbenzene	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	/2\	-	- (2)	-	-	-
m,p-Xylenes	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	10,000 ⁽³⁾	-	10,000 ⁽³⁾	-	-	23,000 ⁽³⁾

Table 2 **Groundwater Sample Results** Crown Cork and Seal Portland, Oregon

		Sample Resu	ılts (ug/L)						Portland Harbor PRG		DEQ RBCs (1)	,
Site ID	MW-1	MW-2	MW-3	MW-3 DUP	MW-4	MW-5		PH specific fish consumption rate ⁽⁴⁾	RAO 4	Volatilization to Outdoor Air	Vapor Intrusion into Buildings	Groundwater in Excavation
Sample Date	4/16/2015	4/16/2015	4/17/2015	4/17/2015	4/16/2015	4/16/2015	MCL ⁽⁴⁾	175 g/day consumption rate	Migration of Contaminated Groundwater	Occupational Worker	Occupational Worker	Construction & Excavation Worker
Volatile Organic Compounds (VOCs) co	ntinued											
Methyl tert-butyl ether (MTBE)	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	ı	1,100,000	590,000	62,000
Methylene Chloride	0.500 UJ	0.500 UJ	0.500 UJ	0.500 UJ	0.500 UJ	0.500 UJ	-	59.0	-	-	-	-
Naphthalene	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.2	-	•	16,000	10,000	500
n-Butylbenzene	0.0800 U	0.0800 U	0.0800 U	0.0800 U	0.0800 U	0.0800 U	-	-	-	-	-	-
n-Propylbenzene	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	-	-	-
o-Xylene	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	0.0600 U	10,000 ⁽³⁾	-	10,000 ⁽³⁾	-	-	23,000 ⁽³⁾
sec-Butylbenzene	0.0700 U	0.0700 U	0.0700 U	0.0700 U	0.0700 U	0.0700 U	-	-	-	-	-	-
Styrene	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	100	-	-	-	-	160,000
tert-Butylbenzene	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	-	-	-	-	-	-
Tetrachloroethene (PCE)	0.210 J	0.540	0.160 J	0.150 J	0.0700 U	0.0700 U	5.0	0.33	0.20	-	32,000	5,400
Toluene	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	1,000	1,500	720	-	-	210,000
trans-1,2-Dichloroethene	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	100	1,000	-	1,800,000	350,000	14,000
trans-1,3-Dichloropropene	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	-	-	-
Trichloroethene (TCE)	0.0460 J	0.0640 J	0.0250 U	0.0250 U	0.300	0.0340 J	5.0	3.0	1.4	19,000	3,300	430
Trichlorofluoromethane	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	0.0250 U	-	-	-	-	340,000	160,000
Vinyl Chloride	0.0130 U	0.0130 U	0.0130 U	0.0130 U	0.0130 U	0.0130 U	2.0	0.240	0.02	6,800	910	1,200
Phthalates												
Bis(2-ethylhexyl) phthalate	1.10 U	6.40 J	1.20 U	1.20 U	1.10 U	1.60 J	6.0	0.22	1	-	-	-
Butyl benzyl phthalate	0.190 U	0.190 U	0.200 U	0.200 U	0.190 U	0.190 U	-	190	-	-	-	-
Diethyl phthalate	0.0950 U	0.0950 U	0.100 U	0.0980 U	0.0960 U	0.0970 U	-	4,400	-	-	-	-
Dimethyl phthalate	0.0950 U	0.0950 U	0.100 U	0.0980 U	0.0960 U	0.0970 U	-	110,000	-	-	-	-
Di-n-butyl phthalate	0.120 U	0.120 U	0.130 U	0.130 U	0.120 U	0.130 U	-	450	1	-	-	-
Di-n-octyl phthalate	0.170 U	0.170 U	0.180 U	0.180 U	0.170 U	0.180 U	-	-		-	-	-

Notes:

All units in µg/L

BOLD = Detected above the MDL.
- = not available or not applicable

DEQ = Oregon Department of Environmental Quality

J= The sample result is an estimated concentration.

MDL = method detection limit

RBCs = risk-based concentrations

SLV = Screening Level Value

U= The analyte was not detected at or above the MDL.

μg/L = micrograms per liter

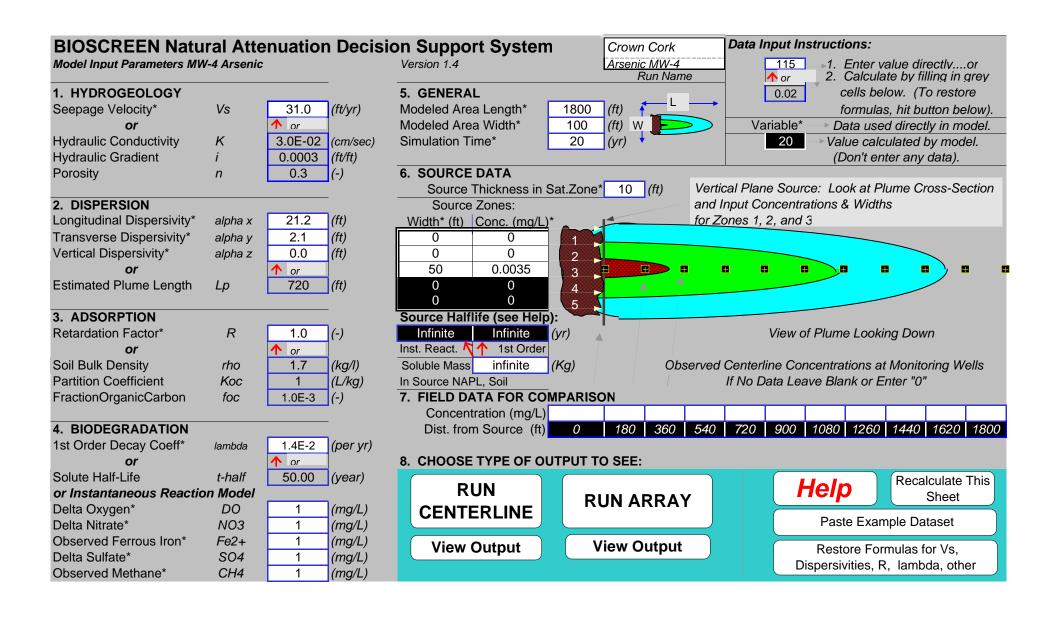
(1) = DEQ, 2012.Risk-Based Concentrations for Individual Chemicals. Revision: June 7.

(2) = For each analyte, URS included the lowest listed DEQ RBC from above.
(3) = The RBCs listed on this table for both xylene compounds are RBCs for total xylenes as the DEQ does not distinguish between the two compounds in the RBC table.

(4) = EPA Maximum Contaminant Levels. http://water.epa.gov/drink/contaminants/#List.

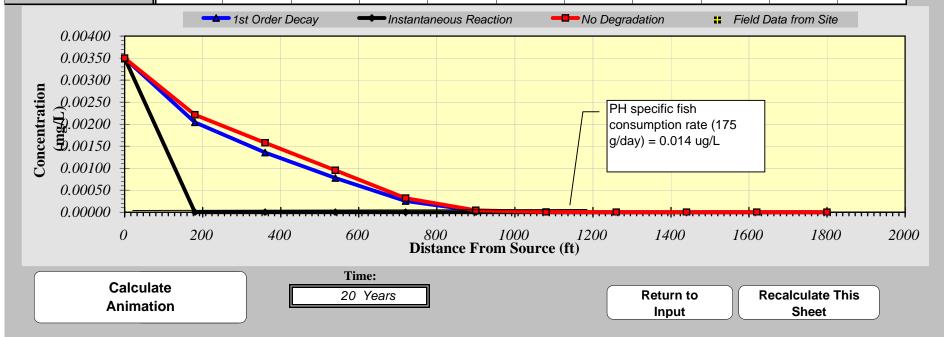
= The reported concentration exceeds the lowest screening criterion.

= The reported method detection limit exceeds the lowest screening criterion.



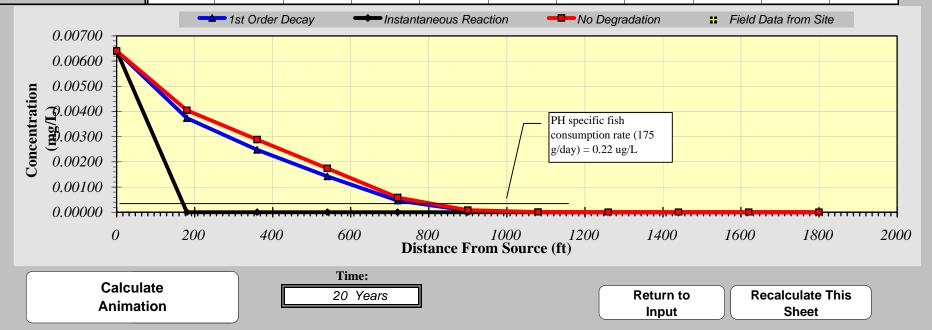
Concentration at MW-4 Arsenic

TYPE OF MODEL	0	180	360	540	720	900	1080	1260	1440	1620	1800
No Degradation	0.003500	0.002212	0.001578	0.000953	0.000321	0.000044	0.000002	0.000000	0.000000	0.000000	0.000000
1st Order Decay	0.003500	0.002043	0.001355	0.000777	0.000254	0.000035	0.000002	0.000000	0.000000	0.000000	0.000000
Inst. Reaction	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Field Data from Site											



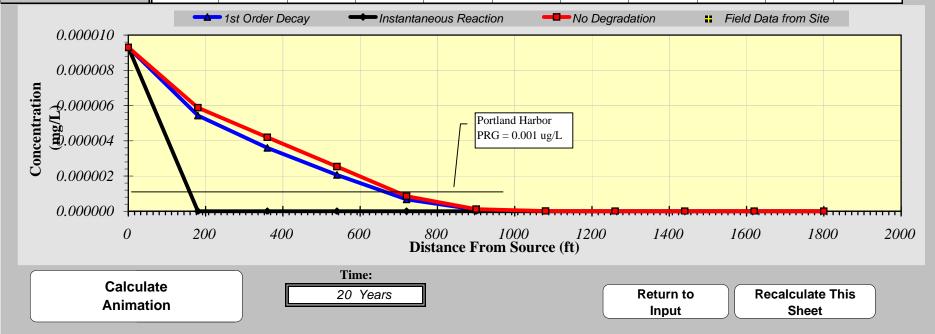
Concentration at MH-2 BEHP

TYPE OF MODEL	0	180	360	540	720	900	1080	1260	1440	1620	1800
No Degradation	0.006400	0.004045	0.002885	0.001743	0.000587	0.000081	0.000004	0.000000	0.000000	0.000000	0.000000
1st Order Decay	0.006400	0.003736	0.002478	0.001421	0.000465	0.000063	0.000003	0.000000	0.000000	0.000000	0.000000
Inst. Reaction	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Field Data from Site											



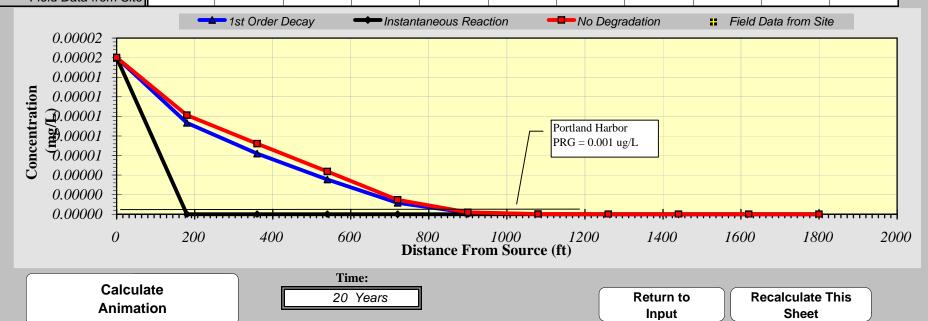
MW-1 Benzo(a)anthracene

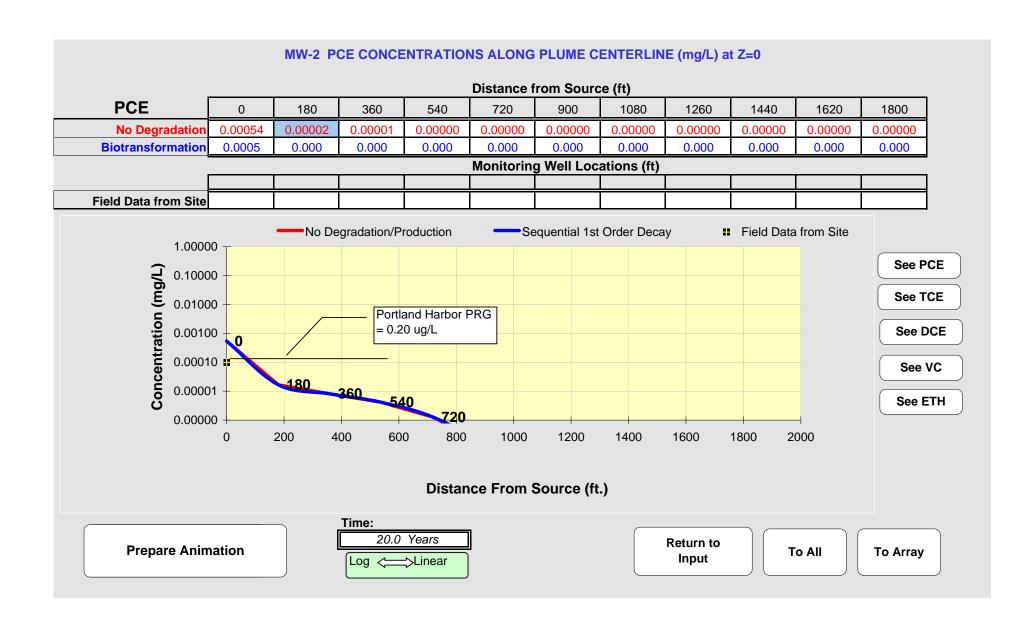
TYPE OF MODEL	0	180	360	540	720	900	1080	1260	1440	1620	1800
No Degradation	0.000009	0.000006	0.000004	0.000003	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
1st Order Decay	0.000009	0.000005	0.000004	0.000002	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Inst. Reaction	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Field Data from Site											

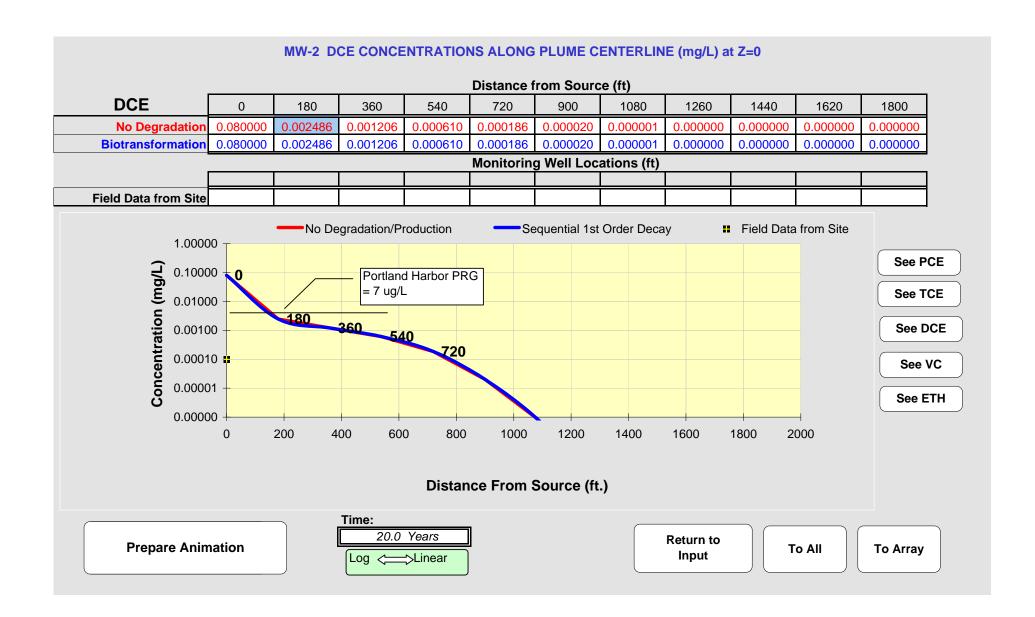


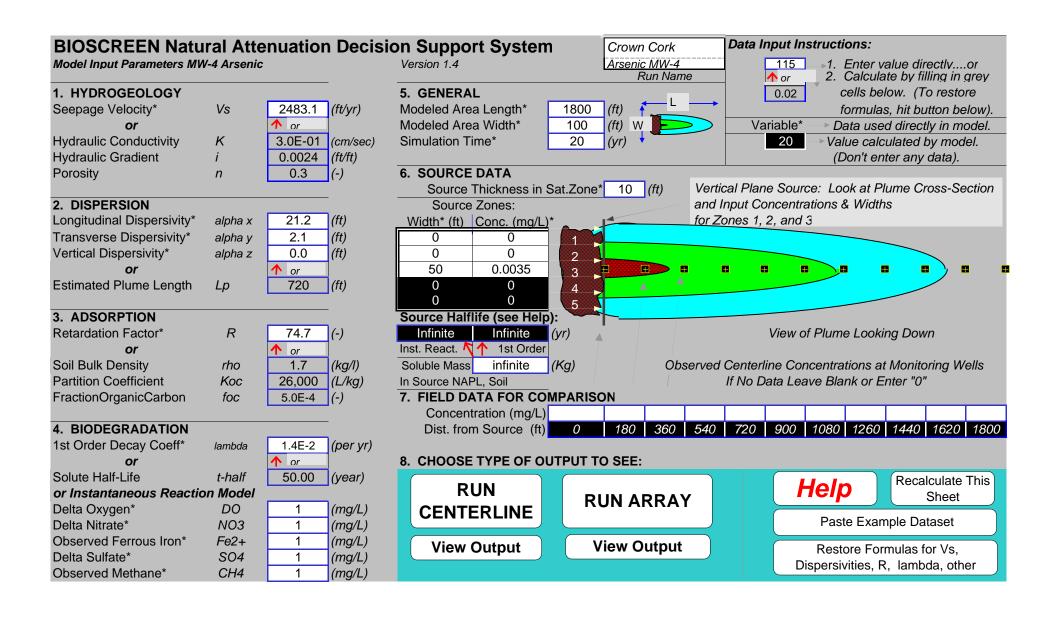
Concentration at MW-1 Chrysene

TYPE OF MODEL	0	180	360	540	720	900	1080	1260	1440	1620	1800
No Degradation	0.000016	0.000010	0.000007	0.000004	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
1st Order Decay	0.000016	0.000009	0.000006	0.000004	0.000001	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Inst. Reaction	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Field Data from Site											



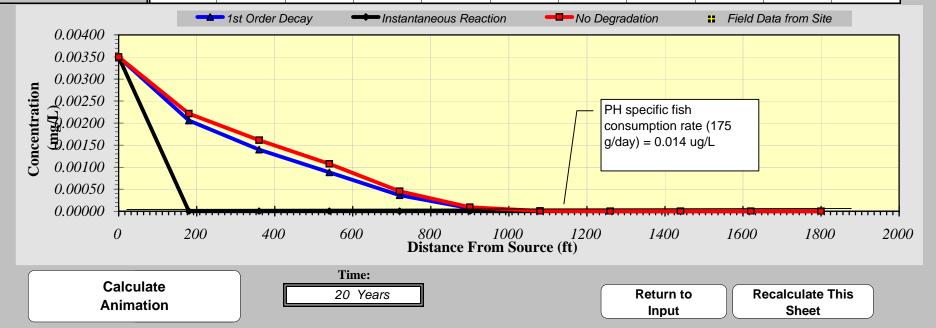






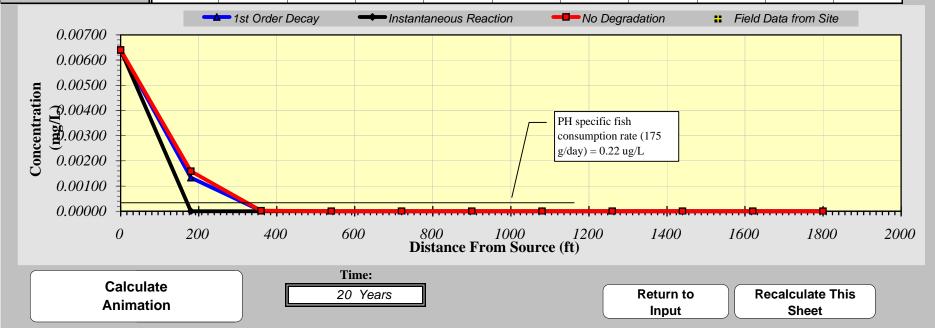
Concentration at MW-4 Arsenic

TYPE OF MODEL	0	180	360	540	720	900	1080	1260	1440	1620	1800
No Degradation	0.003500	0.002215	0.001613	0.001076	0.000454	0.000089	0.000007	0.000000	0.000000	0.000000	0.000000
1st Order Decay	0.003500	0.002057	0.001397	0.000884	0.000361	0.000070	0.000005	0.000000	0.000000	0.000000	0.000000
Inst. Reaction	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Field Data from Site											



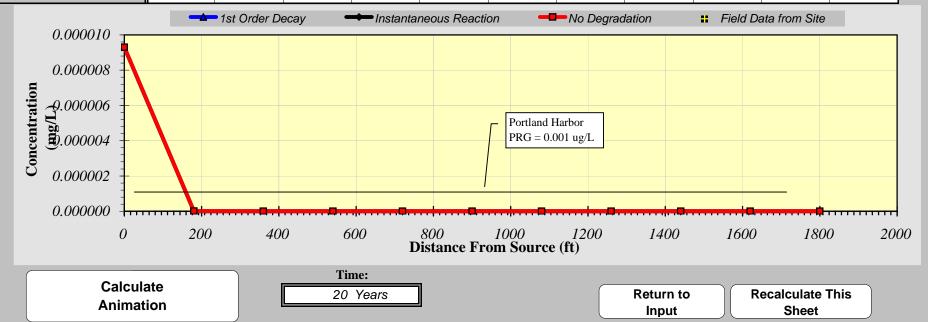
Concentration at MH-2 BEHP

TYPE OF MODEL	0	180	360	540	720	900	1080	1260	1440	1620	1800
No Degradation	0.006400	0.001588	0.000020	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
1st Order Decay	0.006400	0.001331	0.000016	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Inst. Reaction	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Field Data from Site											



MW-1 Benzo(a)anthracene

TYF	PE OF MODEL	0	180	360	540	720	900	1080	1260	1440	1620	1800
	No Degradation	0.000009	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
	1st Order Decay	0.000009	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
	Inst. Reaction	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Fie	eld Data from Site											

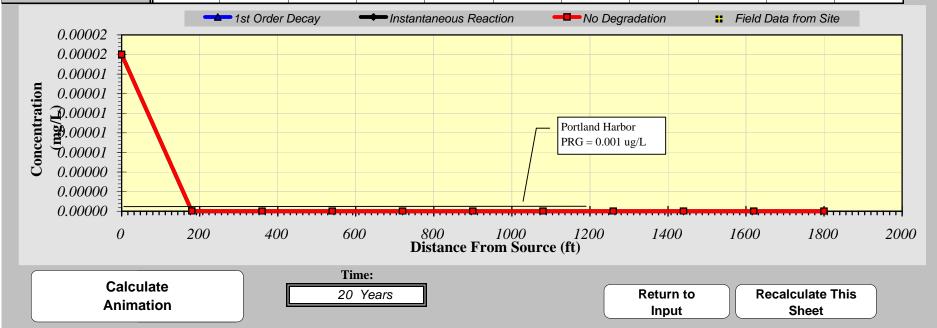


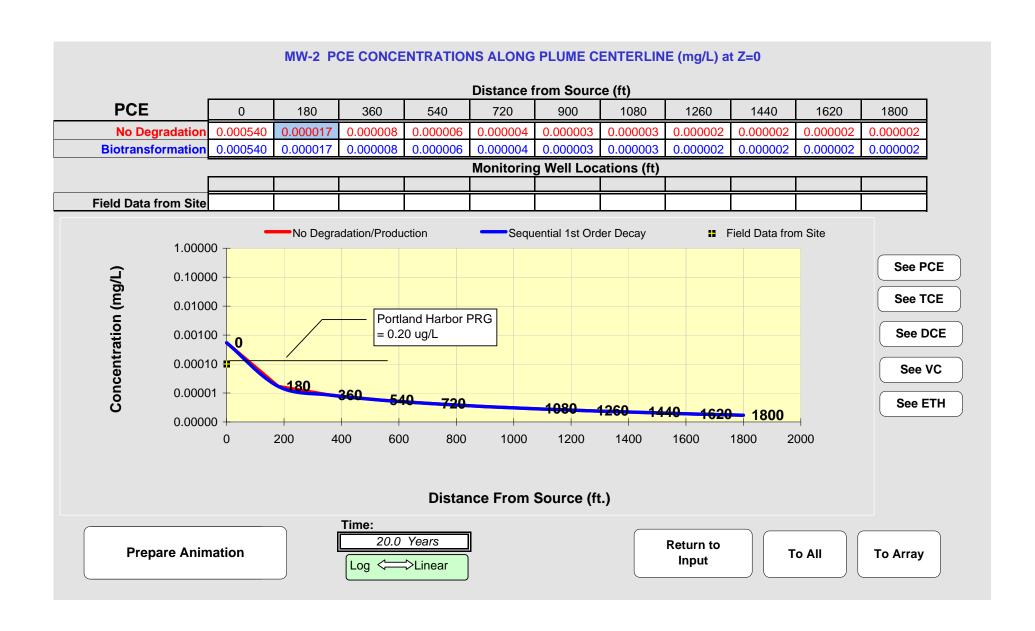
DISSOLVED CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

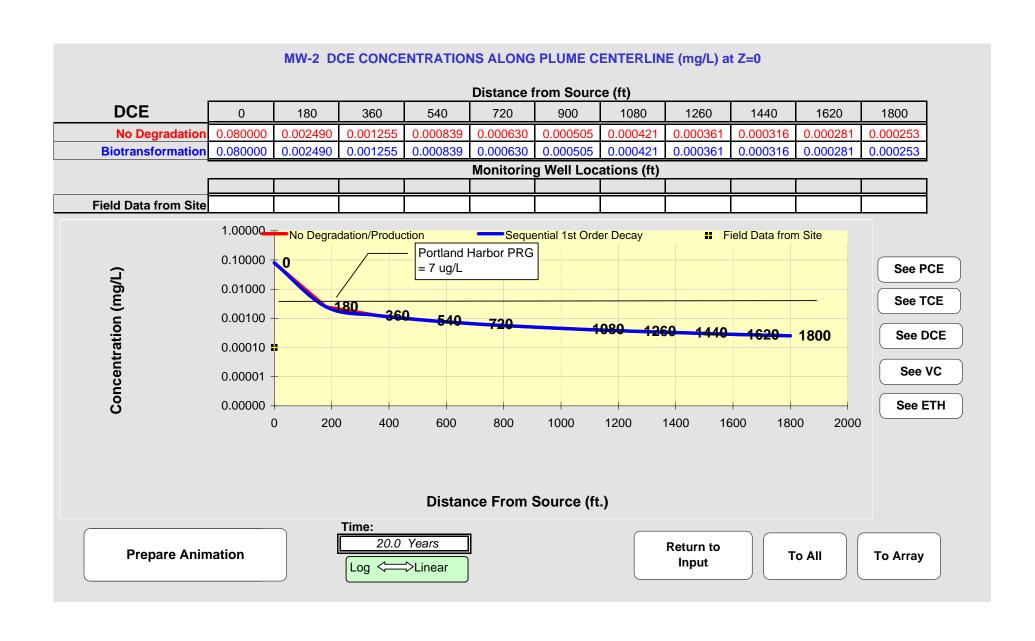
Concentration at MW-1 Chrysene

Distance from Source (ft)

TYPE OF MODEL	0	180	360	540	720	900	1080	1260	1440	1620	1800
No Degradation	0.000016	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
1st Order Decay	0.000016	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
Inst. Reaction	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Field Data from Site											

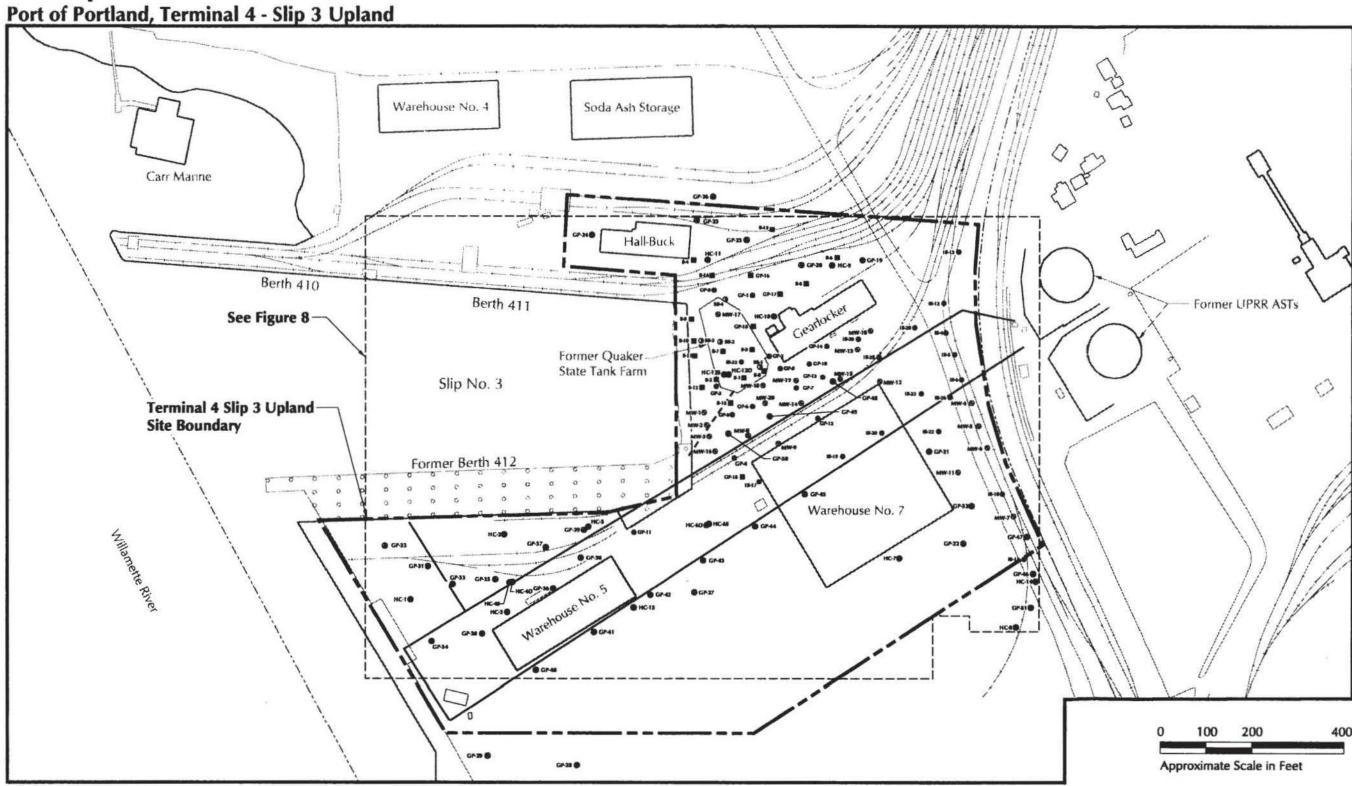






APPENDIX I

Excerpts from 1999 Remedial Investigation at the T-4 Site



Note: Base map prepared from a Port of Portland Terminal No. 4 plan, dated 4/96.

Legend:

- Monitoring Well Location and Designation (by Century West, 6/93 7/93)
- ■17● Investigative Boring Location and Designation (by Century West, 6/93 7/93)
- Soil Probe Location and Designation (by Pacific Environmental Group, 3/97)
- Soil Boring Location and Designation (by Quaker State)
- Geoprobe Location and Designation (by Pacific Environmental Group, 8/97)
- Soil Boring Location and Designation (by Pacific Environmental Group, 8/97)
- Geoprobe Location and Designation (by Hart Crowser, 6/98, 10/98)
- Monitoring Well Loication and Designation (by Hart Crowser, 10/98)
- ——— Abandoned UPRR Fuel Line
- ·---- Former Quaker State Oil Line

POP 202092



J-5624-09 Figure 7 3/99

Site Exploration Plan: Detailed View

Port of Portland, Terminal 4 - Slip 3 Upland GP-23 Legend: B-13 GP-24 (IB-31/MW-16 🚱 Monitoring Well Location and Designation GP-25 (A) (by Century West, 6/93 - 7/93) Hall-Buck Investigative Boring Location and Designation **●** GP-19 B-4 **▲** GP-20 **⊕** HC-9 (by Century West, 6/93 - 7/93) Soil Probe Location and Designation (by Pacific Environmental Group, 3/97) GP-1 ● GP-17 ■ Gearlocker IB-12 O Soil Boring Location and Designation (by Kennedy/Jenks, 4/97) **⑤ IB-33/MW-17** GP-15 Geoprobe Location and Designation IB-34/MW-18@ (by Pacific Environmental Group, 8/97) B-10 Former Quaker Soil Boring Location and Designation State Tank Farm 1B-25/MW-13 (by Pacific Environmental Group, 8/97) HC-125 B-1 B-3 IB-30/MW-15 - 5-61 GP-20 (A) Geoprobe Location and Designation Slip No. 3 IB-36/MW-19 (by Hart Crowser, 6/98, 10/98) **⊕IB-24/MW-12** IB-37/MW-20 IB-27/MW-14 Soil Sample Location and Designation Former Quaker State IB-7/MW-4 (by Hart Crowser, 6/98) Oil Line IB-1/MW-1 € / GP-5 Monitoring Well Location and Designation HC-6D IB-2/MW-2 W IB-8/MW-5 (by Hart Crowser, 10/98) IB-22 C @ IB-15/MW-8 IB-3/MW-3(% Cross Section Location and Designation **▲** GP-21 IB-9/MW-6 **⑤** IB-16/MW-9 IB-31/MW-16-5 GP-50 Former Berth 412 **⑤** IB-21/MW-11 Warehouse No. 7 GP-52 IB-14/MW-7 GP-39 (6) HC-5 HC-6S ✓ **(A)** GP-44 5-26 HC-2® 5-24-GP-47 GP-37 UPRR GP-22 (A) Underground S-21-(A) GP-38 Fuel Line IB-11 0 GP-31 (A) GP-35 S-18 GP-46 (A) HC-14@ **●** GP-27 **⊕** HC-13 GP-51 HC-3 **⊕** POP 202093 HC-8⊕ GP-30 (A) 200 1-5624-09 3/99 Approximate Scale in Feet **▲** GP-40 Note: Base map prepared from a Port of Portland Terminal No. 4 plan, dated 4/96.

Figure 8

POP0237959

RI Report, Rev. 1, 3/2/99

Table 7 - Groundwater Chemical Analyses Results: PAHs in Montioring Well Samples Port of Portland, Terminal 4 - Slip 3 Upland Portland, Oregon

					Non-C	arcinogenic	PAHs						Card	inogenic PA	AHs		NOGEN IN
Sample Location	Sampling Date	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(g,h,i)perylene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene
								Concentra	tions in micr		-						
MW-1	4-Nov-95	0.4	0.1	1.0	2.4	1.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	2-Feb-95	6.4	4.0	24	49	92	3.7	4.8	5.1	0.2	0.7	1.2	0.3	0.2	0.3	0.1	nd
	2-May-95	nd	nd	31	95	150	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	4-Aug-95	0.6	0.4	2.4	5.4	5	0.1	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd
	24-Oct-95	0.5	0.3	2.0	5.5	4.8	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd
	14-Feb-96	0.2	nd	1.0	1.9	0.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	8-May-96	nd	nd	nd	5.8	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	28-Aug-96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	13-Nov-98	No Sample	e Collected f	or Analysis:	0.16 Feet o	f Free Produ	uct in Well										
MW-2	4-Nov-95	0.9	0.5	1.1	0.9	nd	nd	0.9	4.2	0.3	0.8	1.4	0.3		0.5		
	2-Feb-95	38	68	280	530	430	56	27	120	nd	23	61	nd		nd	nd	nd
	2-May-95	32	25	130	290	160	15	22	75	nd	17	23	nd		nd	nd	nd
	4-Aug-95	3.9	0.5	0.6	1.3	0.2	2.1	2.5	8.8	0.6	1.8	3.2	0.5		1.0	0.2	0.1
	24-Oct-95	8.0	2.0	13	5.0	nd	2.0	12	24	2.0	7.0	13	2.0	**	3.0	nd	nd
	14-Feb-96	0.7	0.4	3.1	5.9	1.1	0.4	nd	0.4	nd	0.1	0.2	nd	22	nd	nd	no
	8-May-96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	124	nd	nd	no
	28-Aug-96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd	nd	no
	13-Nov-98	No Sample	e Collected f	or Analysis:	0.62 Feet o	f Free Produ	uct in Well										
MW-3	4-Nov-95	3.1	1.6	9.3	17.0	17.0	2.6	1.3	3.0	0.2	0.5	0.8	0.2	nd	0.3	nd	nd
	2-Feb-95	nd	nd	31	55	49	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	no
	2-May-95	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	no
	4-Aug-95	0.7	0.9	4.8	9.0	3.5	0.5	0.3	0.9	nd	0.1	0.2	nd	nd	nd	nd	no
	24-Oct-95	0.4	0.3	2.0	4.8	0.5	0.2	nd	0.1	nd	nd	nd	nd	nd	nd	nd	no
	14-Feb-96	nd	nd	0.3	0.4	0.3	nd	nd	nd	nd	nd	0.1	nd	nd	nd	nd	no
	8-May-96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	no
	28-Aug-96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	no
	13-Nov-98	No Sample	e Collected f	or Analysis:	0.12 Feet o	f Free Produ	ct in Well										
MW-4	9-Nov-98	<0.100	<0.100	< 0.100	<0.100	<0.100	< 0.100	< 0.100	<0.100	<0.100	<0.100	<0.100	<0.100	< 0.100	<0.100	<0.100	<0.2
MW-5	9-Nov-98	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	< 0.100	<0.100	<0.100	<0.100	<0.2
MW-6	6-Nov-98	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	< 0.500	< 0.500	<0.500	< 0.500	<1
MW-7	6-Nov-98	< 0.200	< 0.100	0.148	0.132	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	<0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	<0.2

Table 7 - Groundwater Chemical Analyses Results: PAHs in Montioring Well Samples Port of Portland, Terminal 4 - Slip 3 Upland Portland, Oregon

					Non-C	arcinogenio	PAHs						Caro	cinogenic P	AHs		
Sample Location	Sampling Date	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Finoranthene	Pyrene	Benzo(g,h,i)perylene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene
								Concentra	tions in micr	ograms per	Liter (µg/L)			1 1014			
MW-8	14-Feb-96	nd	nd	0.3	0.5	0.5	22						**		**		
	8-May-96	nd	nd	nd	nd	nd			**					11			***
	28-Aug-96	nd	nd	nd	nd	nd					-						2.00
	13-Nov-98	<1.00	<5.00	<5.00	<5.00	<1.00	<1.00	<1.00	1.46	<1.00	<1.00	1.02	<1.00	<1.00	<1.00	<1.00	<2.00
MW-9	13-Nov-98	<2.50	<2.50	3.07	5.19	7.45	<2.50	5.07	4.90	<2.50	<2.50	<2.50	<2.50	<2.50	<2.50	<2.50	<5.00
MW-10	28-Aug-96 12-Nov-98	nd <2.50	nd <2.50	nd <2.50	nd 7.44	nd 3.84	nd <2.50	nd <2.50	nd <2.50	nd <2.50	nd <2.50	nd <2.50	nd 3.20	nd <2.50	nd <2.50	nd <2.50	nd <5.00
MW-11	9-Nov-98	<0.100	< 0.100	< 0.500	< 0.100	< 0.200	< 0.200	< 0.100	0.194	< 0.100	<0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.200
MW-12	9-Nov-98	<0.100	< 0.100	< 0.100	< 0.100	< 0.200	< 0.200	< 0.100	< 0.100	< 0.100	<0.100	< 0.100	< 0.100	< 0.100	<0.100	< 0.100	<0.200
MW-13	9-Nov-98	<2.50	<2.50	<2.50	<2.50	0.616	< 0.500	< 0.100	<0.200	< 0.100	<0.100	<0.100	< 0.100	< 0.100	<0.100	< 0.100	<0.200
MW-14	28-Jul-93 2-Feb-95	<0.1 0.2	<0.1 nd	0.2 4.0	0.9	0.6	<0.1 	0.1 nd	0.2 nd	<0.1	0.1 nd	0.1 nd	<0.1	<0.1	<0.1	<0.1	<0.1
	2-May-95	nd	nd	nd	nd	nd		nd	nd		nd	nd					
	4-Aug-95	0.3	0.2	1.4	2.7	1.2		nd	0.1		nd	nd					
	24-Oct-95	0.1	nd	0.5	1.4	0.4		nd	nd	**	nd	nd					
	14-Feb-96	0.2	0.1	1.1	2.2	0.4	•	nd	nd		nd	nd					
	8-May-96	nd	nd	nd	nd	nd		nd	nd		nd	nd	4-				**
	28-Aug-96 13-Nov-98	nd No Sample	nd e Collected fo	nd or Analysis:	nd 4.66 Feet of	nd Free Produ	ict in Well	nd	nd		nd	nd			**		
MW-15A	28-Jul-93	0.3	<0.1	1.2	5.4	5.1	0.3	<0.1	0.2	<0.1	0.1	0.1	< 0.1	< 0.1	<0.1	<0.1	<0.1
MW-15B	28-Jul-93	0.3	<0.1	1.2	5.9	5.8	0.2	0.1	0.3	< 0.1	0.1	0.1	< 0.1	<0.1	< 0.1	< 0.1	< 0.1
MW-15	4-Nov-95	9.1	5.5	25.0	73.0	61.0	2.6	3.4	7.6	nd	1.1	1.4	nd	nd	nd	nd	nd
	2-Feb-95	3.4	2.8	15	36	64	1.5	1.7	2.9	nd	0.3	0.7	nd	nd	nd	nd	nd
l l	2-May-95	12	15	57	180	320	nd	nd	14	nd	nd	nd	nd	nd	nd	nd	nd
	4-Aug-95	1.9	2.1	9.2	23	32	0.8	0.7	1.6	nd	0.1	0.2	nd	nd	nd	nd	nd
	24-Oct-95	0.7	0.5	3.0	11.0	8.1	0.2	nd	0.1	nd	nd	nd	nd	nd	nd	nd	nd
	14-Feb-96	0.9	0.7	4.1	12	12	0.4	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	8-May-96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	28-Aug-96	nd No Comple	nd Collected for	nd	nd	nd Cros Brodu	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	13-Nov-98	No Sample	Collected for	n Analysis:	2.09 Feet of	Free Produ	ct in weil				1						

Table 7 - Groundwater Chemical Analyses Results: PAHs in Montioring Well Samples Port of Portland, Terminal 4 - Slip 3 Upland Portland, Oregon

					Non-C	arcinogeni	c PAHs				Carcinogenic PAHs						
Sample Location	Sampling Date	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(g,h,i)perylene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene
								Concentra		ograms per					-		
MW-16	4-Nov-95	2.7	0.4	2.2	1.7	1.6	0.4	nd	0.2	nd	nd	nd	nd	nd	nd	nd	
	2-Feb-95	6.4	4.0	24	49	92	3.7	4.8	5.1	0.2	0.7	1.2	0.3	0.2	0.3	0.1	
	2-May-95	nd	nd	20	25	21	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
	4-Aug-95	1.4	1.4	6.9	7.9	3.6	0.9	0.2	0.4	nd	nd	nd	nd	nd	nd	nd	
	24-Oct-95	0.8	0.5	2.6	4.3	2.0	0.6	nd	0.1	nd	nd	nd	nd	nd	nd	nd	
	14-Feb-96	0.3	0.2	1.1	1.5	0.8	0.3	nd	0.2	nd	nd	nd	nd	nd	nd	nd	**
	8-May-96	nd	nd	nd	7.1	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	. nd	
	28-Aug-96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	
	12-Nov-98	<5.00	<2.50	8.89	16.4	<5.00	<5.00	<2.50	<2.50	<2.50	<2.50	<2.50	<2.50	<2.50	<2.50	<2.50	<5.0
MW-17	4-Nov-95	1.0	0.3	2.7	4.5	3.1	0.2	0.2	0.3	nd	nd	nd	nd	(577)	nd		
	2-May-95	nd	nd	14	39	68	nd	nd	nd	nd	nd	nd	nd	•-	nd	-77	
	4-Aug-95	7.3	4.7	28	47	120	2.7	7.2	5.6	0.1	0.5	0.6	0.2	7.7	0.2		
	24-Oct-95	0.6	0.2	2.1	3.5	31	0.1	0.2	0.2	nd	nd	nd	nd		nd		
	14-Feb-96	14	8.3	36	110	190	4.5	2.9	2.8	nd	nd	1.0	nd		nd	57	
	8-May-96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd		nd	177	1.77
	28-Aug-96	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	-	nd	1579	77
	13-Nov-98	No Sample	e Collected f	or Analysis:	0.25 Feet of	Free Produ	uct in Well										
MW-18	9-Nov-98	<0.100	< 0.100	< 0.100	< 0.100	0.121	< 0.100	0.262	0.257	0.179	0.168	0.194	0.263	0.163	0.245	0.145	< 0.20
MW-19	4-Nov-95	2.1	1.1	6.5	17.0	20.0	0.4	0.4	0.7	550	0.1	0.2		**			
	2-Feb-95	3.4	2.8	15	36	64	1.5	1.7	2.9	3 5 • 5	0.3	0.7	1-7	7. 00 7			
	2-May-95	11	13	56	160	260	nd	nd	13	\	nd	nd	900		77.	**	***
	4-Aug-95	13	11	45	130	240	3.0	5.5	12		1.4	1.6	**				
	24-Oct-95	0.8	0.6	3.5	11	9.8	0.4	0.2	0.1		nd	nd					. **
	14-Feb-96	4.9	4.1	20	59	100	1.4	nd	2.7		nd	nd		-	**	-	
	8-May-96	nd	nd	nd	17	29	nd	nd	nd	**	nd	nd	-		**		9 44
	28-Aug-96	nd	nd	nd	nd	nd	nd	nd	nd	122	nd	nd		***			
	12-Nov-98	No Sample	Collected for	or Analysis:	1 44 Feet of	Free Produ	ct in Well										

Table 7 - Groundwater Chemical Analyses Results: PAHs in Montioring Well Samples Port of Portland, Terminal 4 - Slip 3 Upland Portland, Oregon

					Non-C	arcinogeni	c PAHs						Caro	inogenic PA	AHs		
Sample Location	Sampling Date	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(g,h,i)perylene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene
								Concentra	tions in micr								
MW-20	4-Nov-95	20.0	15.0	69.0	190.0	350.0	8.0	8.9	15.0		1.1	1.7	nd		(**)		
	2-Feb-95	3.5	3.1	19	37	72	3.3	1.9	3.2		0.3	0.6	0.1	**			
	2-May-95 4-Aug-95	nd 0.8	nd 0.9	24 4.9	65 12	110 11	nd 0.3	nd 0.2	nd 0.4		nd nd	nd nd	nd nd				
	24-Oct-95	4.0	4.0	17	57	88	nd	2.0	2.0		nd	nd	nd				
	14-Feb-96	1.1	8.0	4.6	14	16	0.3	nd	nd		nd	nd	nd	-		**	
	8-May-96	nd	nd	nd	nd	38	nd	nd	nd		nd	nd	nd				**
	28-Aug-96 12-Nov-98	nd No Sample	nd e Collected f	nd or Analysis:	nd 0.37 Feet o	nd f Free Produ	nd uct in Well	nd	nd		nd	nd	nd				
HC-1	5-Nov-98	<0.100	< 0.100	< 0.100	<0.100	< 0.100	<0.100	< 0.100	<0.100	< 0.100	<0.100	<0.100	< 0.100	< 0.100	< 0.100	< 0.100	<0.200
HC-2	5-Nov-98	<0.100	< 0.100	< 0.100	< 0.100	< 0.100	<0.100	< 0.100	<0.100	< 0.100	<0.100	<0.100	<0.100	< 0.100	<0.100	<0.100	<0.200
HC-3	5-Nov-98	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0 100	<0.100	< 0.100	<0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	<0.200
HC-4S	5-Nov-98	No Sample	e Collected f	or Analysis:	Monitoring '	Well Dry at	Time of Sam	pling			-						
HC-4D	5-Nov-98	0.147	<0.100	<0.100	<0.100	<0.100	< 0.100	< 0.100	<0.100	< 0.100	<0.100	<0.100	<0.100	< 0.100	< 0.100	< 0.100	<0.200
HC-5	12-Nov-98	<0.100	<2.50	<2.50	<2.50	<0.500	<0.500	< 0.100	< 0.100	< 0.100	<0.100	<0.100	< 0.100	< 0.100	<0.100	<0.100	<0.200
HC-6S	5-Nov-98	No Sample	e Collected f	or Analysis:	Monitoring 1	Well Dry at	Time of Sam	pling									
HC-6D	5-Nov-98	<0.100	< 0.100	< 0.100	< 0.100	<0.200	< 0.100	< 0.100	< 0.100	< 0.100	<0.100	<0.100	< 0.100	< 0.100	< 0.100	<0.100	< 0.200
HC-7	6-Nov-98	<0.100	< 0.100	<0.100	< 0.100	<0.100	<0.100	< 0.100	<0.100	<0.100	<0.100	<0.100	<0.100	< 0.100	<0.100	<0.100	<0.200
HC-8	13-Nov-98	No Sample	e Collected f	or Analysis:	Monitoring 1	Well Dry at	Time of Sam	pling									
HC-9	6-Nov-98	<0.100	< 0.100	<0.100	< 0.100	< 0.100	<0.100	< 0.100	<0.100	<0.100	<0.100	<0.100	<0.100	< 0.100	< 0.100	<0.100	<0.200
HC-10	10-Nov-98	<5.00	<5.00	<5.00	10.1	7.22	<2.50	<2.50	<2.50	< 0.100	<0.100	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100	<0.200
HC-11	5-Nov-98	<2.50	<2.50	<2.50	4.46	5.08	<2.50	<2.50	<0.200	<0.100	<0.100	<0.100	<0.100	< 0.100	<0.100	<0.100	<0.200
HC-12S	5-Nov-98	No Sample	e Collected for	or Analysis:	Monitoring \	Well Dry at	Time of Sam	pling									
HC-12D	5-Nov-98	<1.00	<1.00	<1.00	<1.00	<0.500	< 0.100	< 0.100	<0.100	< 0.100	<0.100	<0.100	< 0.100	< 0.100	<0.100	<0.100	<0.200
HC-13	5-Nov-98	<0.100	< 0.100	<0.100	<0.100	< 0.100	<0.100	<0.100	< 0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.200
HC-14	13-Nov-98	No Sample	Collected for	or Analysis:	Monitoring \	Well Dry at 7	Time of Sam	pling									

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Please refer to notes on the last page of this table.

Table 7 - Groundwater Chemical Analyses Results: PAHs in Montioring Well Samples Port of Portland, Terminal 4 - Slip 3 Upland Portland, Oregon

Notes:

- 1. Polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270 (1993 data), EPA Method 8310 (1994 through 1996 data), and EPA Method 8270-SIM (1997 and 1998 data).
- 2. -- = Not analyzed for compound.
- 3. < = Not detected at or above the laboratory method reporting limit (MRL).
- nd = Not detected (MRL not provided).
- Sources: 1993 through 1996 data from Century West (1994, 1996); 1997 data from PEG (1997a); and 1998 data from Hart Crowser investigations. 1993 data has not been subjected to quality assurance review and was used for qualitative purposes only.

Table 8 - Groundwater Chemical Analysis Results: VOCs Port of Portland, Terminal 4 - Slip 3 Upland Portland, Oregon

Sample Location	MW-13	MW-18
Sampling Date	9-Nov-98	9-Nov-98
Analyte	Concentrations in micr	ograms per Liter (µg/L)
Acetone	<25.0	<25.0
Benzene	<1.00	<1.00
Bromobenzene	<1.00	<1.00
Bromochloromethane	<1.00	<1.00
Bromodichloromethane	<1.00	<1.00
Bromoform	<1.00	<1.00
Bromomethane	<10.0	<10.0
2-Butanone	<25.0	<25.0
n-Butylbenzene	<1.00	<1.00
sec-Butylbenzene	1.16	<1.00
tert-Butylbenzene	<1.00	<1.00
Carbon tetrachloride	<2.00	<2.00
Chlorobenzene	<1.00	<1.00
Chloroethane	<5.00	<5.00
Chloroform	<1.00	<1.00
Chloromethane	<5.00	<5.00
2-Chlorotoluene	<1.00	<1.00
4-Chlorotoluene	<1.00	<1.00
Dibromochloromethane	<1.00	<1.00
1,2-Dibromo-3-chloropropane	<2.00	<2.00
1,2-Dibromoethane	<1.00	<1.00
Dibromomethane	<1.00	<1.00
1,2-Dichlorobenzene	<1.00	<1.00
1,3-Dichlorobenzene	<1.00	<1.00
1,4-Dichlorobenzene	<1.00	<1.00
Dichlorodifluoromethane	<5.00	<5.00
1,1-Dichloroethane	<1.00	<1.00
1,2-Dichloroethane	<1.00	<1.00
1,1-Dichloroethene	<1.00	<1.00
cis-1,2-Dichloroethene	<1.00	<1.00
trans-1,2-Dichloroethene	<1.00	<1.00
1,2-Dichloropropane	<1.00	<1.00
1,3-Dichloropropane	<1.00	<1.00
2,2-Dichloropropane	<1.00	<1.00
1,1-Dichloropropene	<1.00	<1.00
cis-1,3-Dichloropropene	<1.00	<1.00
trans-1,3-Dichloropropene	<1.00	<1.00
Ethylbenzene	<1.00	<1.00
Hexachlorobutadiene	<2.00	<2.00
2-Hexanone	<10.0	<10.0
Isopropylbenzene	1.64	<1.00

Table 8 - Groundwater Chemical Analysis Results: VOCs Port of Portland, Terminal 4 - Slip 3 Upland Portland, Oregon

Sample Location	MW-13	MW-18						
Sampling Date	9-Nov-98	9-Nov-98						
Analyte	Concentrations in micrograms per Liter (µg/L)							
p-Isopropyltoluene	<1.00	<1.00						
Methylene chloride	<5.00	<5.00						
4-Methyl-2-pentanone	<5.00	<5.00						
Naphthalene	<1.00	<1.00						
n-Propylbenzene	<1.00	<1.00						
Styrene	<1.00	<1.00						
1,1,1,2-Tetrachloroethane	<1.00	<1.00 <1.00						
1,1,2,2-Tetrachloroethane	<1.00							
Tetrachloroethene	<1.00	<1.00						
Toluene	<1.00	<1.00						
1,2,3-Trichlorobenzene	<1.00	<1.00						
1,2,4-Trichlorobenzene	<1.00	<1.00						
1,1,1-Trichloroethane	<1.00	<1.00						
1,1,2-Trichloroethane	<1.00	<1.00						
Trichloroethene	<1.00	<1.00						
Trichlorofluoromethane	<5.00	<5.00						
1,2,3-Trichloropropane	<1.00	<1.00						
1,2,4-Trimethylbenzene	<1.00	<1.00						
1,3,5-Trimethylbenzene	<1.00	<1.00						
Vinyl chloride	<2.00	<2.00						
m,p-Xylene	<2.00	<2.00						
o-Xylene	<1.00	<1.00						

Notes:

- 1. Volatile organic compound (VOC) analysis by EPA Method 8260.
- 2. <= Not detected at or above the method reporting limit (MRL).
- 3. Data from 1998 Hart Crowser investigation.